Wholesale mobile voice call termination – Preliminary consultation on future regulation

T-Mobile is pleased to respond to Ofcom's consultation 'Wholesale mobile voice call termination markets – Preliminary consultation on future regulation' ('the consultation').

T-Mobile believes that a fundamental review of mobile termination charge controls is warranted as the current controls have not met the regulators' expectations.

- A large proportion of the cuts in termination charges, around 40 per cent, have not been passed through to consumers in lower fixed-to-mobile prices.
- The reduction in termination charges has had consequences for the mobile retail market and in particular has stopped the historical downward trend in mobile retail prices. This was inevitable as there was no pool of excess profits to absorb, even in part, the impact of the cuts. The result is that consumers are paying more for mobile services than they would be paying in the absence of the charge controls.
- Far from providing a safeguard against competitive distortions, the charge controls are themselves seriously distorting competition in the mobile market through their discriminatory application to the 2G MNOs whilst not applying to Hutchinson 3G (UK) Limited's (H3G's) 2G termination services.

T-Mobile believes that the experience of the current controls suggests that a higher charge control level is likely to be in the overall interests of consumers. The nature of competition in the retail fixed-to-mobile market is such that changes in mobile termination rates only partly flow through into retail fixed-to-mobile prices. On the other hand, a higher level of charge controls can be expected to lead to significantly lower mobile retail prices as competition between mobile operators has been shown to be so intense that changes in termination revenues fully translate into changes in mobile retail prices. In other words, in cutting termination charges severely, Ofcom overestimated the benefits and underestimated the costs.

While the existing controls have created problems, there are strong reasons to expect that market developments will over time remove the need for any controls. VoIP and fixed/mobile convergent services are likely to enable customers to avoid paying mobile termination charges altogether. The incentive to delay and reduce the loss of traffic giving rise to mobile termination charges will also constrain mobile operators to ensure that mobile termination is priced competitively to the consumers that continue to use the service. These changes will allow Ofcom to step back from regulation and allow the market to develop. The removal of charge controls entirely would also avoid Ofcom from having to apply controls to 3G services with all the inherent uncertainties and risks that that entails.

If controls are to be maintained, it is critical that Ofcom takes steps to limit their harm. Consistent with Ofcom's statutory duties, the controls must be set at a level that enables operators to earn a reasonable return on their investments. This means that the controls

must enable operators to recover their 2G and 3G costs, including the cost of their 3G licences and the cost of the migration from 2G to 3G. A regulatory policy that only allows operators to recover the cost of the latest technology while ignoring that entry based on the latest technology takes time and involves higher costs in the interim cannot be to mimic a competitive market. Further, such a policy would act a serious deterrent to new investment in the mobile sector.

Ofcom must also change the scope of the controls so as to end their distortionary effect on competition. If regulation of the 2G/3G operators is to be maintained, then regulation must also apply to H3G and any new entrants that provide competing services. The current asymmetric regulation enables H3G to charge around double the termination charges of the other operators without any cost justification for this differential. The consequence is that H3G can use its termination advantage to subsidize the growth of its customer base at the expense of the other operators.

1 The assumptions underlying the existing controls have not been met

T-Mobile believes that the starting point in considering whether to extend the existing charge controls should be an examination of the actual impact of the controls to date. In particular, Ofcom needs to consider whether or not the assumptions underlying the case for the sharp reduction in termination charges have been met.

Key questions are:

- To what extent have the reductions in termination charges been passed on by fixed operators in lower fixed-to-mobile prices?
- To what extent have mobile operators been forced to set mobile retail prices higher than they otherwise would be because of the cuts in termination charges?
- What has been the impact on competition?

1.1 Reductions in mobile termination charges have not been passed through in full to fixed-to-mobile prices

One of the main reasons provided for the price regulation of termination charges was the claim of efficiency loss due to "the unbalanced structure of prices, leading to under-consumption of retail services which use wholesale termination services as inputs, and over-consumption of other mobile services[1]". In other words, even if consumers were not facing a higher overall level of prices, Ofcom was still concerned about an inefficient structure of prices. It appears to accept, at least in part, that fixed operators are subsidising the mobile market to the detriment of the fixed market. In order to effectively remedy this concern it is essential that reductions in termination charges are fully passed through into lower charges to call mobile phones. This is essential because Ofcom defines the problem by pointing to the linear relationship between the price structure and

Comment: I am not sure this is the right comment to make about this quote. Are we quoting the right reason for the price cap policy here?

[1] Ofcom, "Wholesale Mobile Voice Call Termination - Statement", Ofcom, 1 June 2004, para. 4.19.

the problem of over consumption in mobile termination services and under consumption in the retail services relying on these termination services. There would be no benefit to efficiency or overall consumer welfare if lower termination charges were instead retained by fixed operators as higher profits or passed through into lower prices for other fixed services[2].

Ofcom's latest Communications Market report shows what has happened in practice[3]. In 2003, fixed operators retained on average 3.2 pence for every minute of a fixed-to-mobile call (i.e. 13.1ppm minus 9.9ppm). In 2004, fixed operators' average retention had grown by over a quarter to 4.1 pence per minute. This suggests that around **40%** of the reduction in termination charges over this period has not been passed through into lower fixed-to-mobile prices[4]. An example of the fixed operators' response can be found in Table 1 by comparing the standard fixed-to-mobile prices of two of the largest fixed operators before the first of the cuts in July 2003 with their current rates. It is clear that these operators have not passed on a large proportion of the cuts (and, we note, their overall profitability has been growing).

[2] Lower prices for other fixed services would simply replace one inefficient price structure with another inefficient price structure, i.e. there would still be under-consumption of services using mobile termination (as the retail prices for these services would not have been reduced fully in line with the cuts in termination charges) and now there would be over-consumption of the other fixed services. Such a change can hardly provide the basis for intervention by a regulator tasked with maximising efficiency and overall consumer benefits rather than favouring one group of operators over another.

[3] Ofcom, *Communications Markets 2005 - Telecommunications*, Figure 3.36.

[4] While average revenue per minute figures are vulnerable to changes in mix, changes in mix would be expected to be relatively small between consecutive years and it is not clear whether the impact would be to push average revenue higher or lower. For instance, the growth in mobile customers who make *and receive* a higher share of calls during cheaper off-peak periods (e.g. teenagers) would tend to push the average revenue of fixed-to-mobile calls down even without fixed operators making any reduction in retail fixed-to-mobile prices.

Table 1: Changes in retail fixed-to-mobile prices[5]

	Daytime	Evening	Weekend	Average reduction in retail prices	Average reduction in termination charges
ntl's standard call rate for calling Orange					
Rates at 5 May 2003	24ppm	18ppm	8ppm		
Rates at 5 August 2005	23.99ppm	17.99ppm	5.73ppm		
Difference	*0.01ppm*	*0.01ppm*	*2.27ppm*	***0.46ppm***	***4.55ppm***
Telewest's standard call rate for calling Orange					
Rates at 5 May 2003	21.68ppm	16.18ppm	6.98ppm		
Rates at 5 August 2005	19ppm	11.5ppm	6ppm		
Difference	*2.68ppm*	*4.68ppm*	*0.98ppm*	***2.94ppm***	***4.55pm***

Ofcom's expected benefit from the charge controls was thus significantly overestimated at the time.

Next we examine what have been the costs of regulation in practice.

1.2 The impact on mobile retail prices has been worse than expected

A second pillar of the case for the current charge controls was the regulators' belief that upward pressure on mobile retail prices would only be moderate (i.e. as a result of the waterbed effect). For instance, Ofcom felt that it was "realistic" to believe that mobile operators were earning excess profits and that these excess profits would cushion the impact of the waterbed effect[6]. The Competition Commission's calculations suggested that even with a full waterbed effect there would be some ongoing reductions in mobile retail prices:

> "Comparing these reduction with our estimate of the price increases that would (assuming a full waterbed) follow a termination charge reduction implies that average retail prices would still fall but by, on average, about half of the rate as shown in the MNOs' business plans, that is, by about 3 per cent a year[7]".

Ofcom's evidence indicates that, in fact, the historical trend of declining mobile retail prices has been brought to an end. Ofcom found that while contract prices have fallen

[5] We have chosen calls to Orange as rates for May 2003 were reported in Orange's submission *Orange's response to Oftel's consultation: Review of fixed narrowband retail markets*, 29 May 2003. Current call rates are obtained from tariff calculators on the operators' websites (charges include VAT and exclude connection charges). Average reduction for retail and termination charges has been calculated assuming a traffic profile of 50% daytime calls, 30% evenings and 20% weekend. Orange's termination rates as at May 2003 are reported in Orange's 29 May 2003 submission.

[6] Ofcom, *Wholesale mobile voice call termination consultation*, 19 December 2003, para. L.3.

[7] Para. 2.565, "Vodafone, O2, Orange and T-Mobile: Reports on references under section 13 of the Telecommunications Act 1984 on the charges made by Vodafone, O2, Orange and T-Mobile for terminating calls from fixed and mobile networks", Competition Commission, 2002.

slightly over the last couple of years, pre-pay prices (and pre-pay accounts for the bulk of the market) have risen[8]. This result is even more remarkable given that the main (non-regulatory) market factors act to exert significant downward pressure on retail prices, particularly intensifying competition from H3G and MVNOs. Independent analysis also suggests that mobile retail prices have risen and that even off-net prices have risen despite the regulators' expectation of the direct impact on termination costs on these prices[9]. A further consequence has been that the position of UK consumers compared with other European consumers has worsened[10].

It is clear that Ofcom's expectation that there existed a pool of excess profits to cushion the impact on mobile retail prices and that retail prices would continue to fall have not been realised. Rather the evidence suggests that mobile customers are bearing a large cost from the charge controls in terms of mobile retail prices being substantially above where they would have been, had the historical downward trend been allowed to continue or even accelerate with the impact of new entry.

An examination of the overall impact of the regulated reductions in mobile termination charges on consumers indicates that:

- The regulators substantially overestimated the gains of the regulation as fixed operators have not passed on a large share of the cuts in termination charges into lower fixed-to-mobile prices; and
- The regulators substantially underestimated the costs of the regulation as the historical downward trend in mobile retail prices has been halted.

Even the most optimistic assumptions suggested that the regulatory cuts in termination charges would only bring negligible, if any, benefits. For instance, using the Competition Commission's own assumptions in relation to costs, elasticities and externalities, the Noble Prize winning economist Professor James Mirrlees estimated that the welfare gain from cutting termination charges from their previous levels would be only a few million pounds per quarter[11]. On the evidence, it now appears that the charge controls have, in fact, come at a significant cost to overall consumer welfare. In the interest of better regulation we urge Ofcom to revisit and conduct its Cost Benefit Analysis again, now with the benefit of knowledge of the impact of the existing controls, taking account of the very low degree of pass-through into fixed-to-mobile prices. In addition to the impact of allocative efficiency, the charge controls are also having a more insidious effect as we will discuss next.

1.3 Competition in the mobile market is being distorted

Another justification put forward for the current charge controls was a concern about potential "competitive distortions that may arise from the freedom that MNOs enjoy in

[8] Ofcom, *Communications Market Quarterly Update - January 2005*, p.48.
[9] "UK Mobile Call Charge trends – UK GSM network operators", Enders Analysis, September 2004.
[10] Ofcom, *Communications Market Quarterly Update - January 2005*, p.51.
[11] Prof. James Mirrlees, Witness Statement in the *MNOs v. the Competition Commission and Oftel*.

the wholesale termination market[12]". These concerns appear to be exaggerated if we consider the success of new mobile entrants around the world who prove their success in taking market share in the face of alleged high mobile termination rates. Given Ofcom's desire to regulate rather than rely on competition law, we will not know what would have occurred absent the regulation. However, what is now clear is that the charge controls, far from providing a safeguard against competitive distortions, are themselves seriously distorting competition.

The current charge controls are operating to allow one mobile operator, H3G, to impose 2G termination charges that are double the charges of the other mobile operators and without any justification being provided for the massive difference. Indeed, H3G's costs for reselling 2G termination on O2's network would be expected to have come down substantially with the regulated reduction in O2's termination rates and yet H3G has not reduced its termination charges[13]. Ofcom's statement imposing the current charge controls sets out Ofcom's expectation:

> "Ofcom notes that in light of any control to reduce the charges for the 2G termination provided by O2, Orange, T-Mobile and Vodafone, it would expect a consequent reduction in charges set by '3'… The obligation imposed by '3' under this Statement will assist Ofcom in keeping these matters under review… this does not prevent Ofcom from setting additional remedies at a later date if such action is justified and compliant with all relevant tests in the Act[14]".

Again, the evidence is clear – the charge controls have not operated in line with Ofcom's expectation and yet Ofcom has failed to act despite T-Mobile alerting Ofcom to its concerns in this regard in November 2004.
Such a discriminatory regulatory approach is not only in violation of Ofcom's duties under section 4(6) of the Communications Act 2003 but is also undermining efficient competition in the mobile market. In particular, H3G is being allowed to use termination charges to cross-subsidise its acquisition of mobile customers. H3G's high termination charges (and the profits these bring on every subscriber acquired) enable H3G to undercut the other operators without being any more efficient.

The result of H3G's artificial advantage is evident in its rapid growth, in particular, in gaining over 3 million UK customers in two years[15]. H3G's current customer base is substantially larger than the customer base of T-Mobile (then One2One) of around 2 million when its termination rates were brought under quasi-regulation at the end of 1998. Thus there would be no basis for claiming that regulation would be

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[12] Ofcom, "Wholesale Mobile Voice Call Termination – Proposals for the identification and analysis of markets, determination of market power and setting of SMP conditions", 19 December 2003, para.4.52.
[13] It should be noted that T-Mobile considers it appropriate that termination regulation takes into account the impact of factors outside operators' control that force some operators to have higher costs than others. However, this needs to be based on an analysis of the impact of the factors and not simply allow an operator to charge what it likes, even when its costs have clearly fallen.
[14] Ofcom, "Wholesale Mobile Voice Call Termination - Statement", 1 June 2004, para 5.65.
[15] H3G press release, "Hutchison Whampoa Limited 2004 Full-Year Results Highlight for 3G", 31 March 2005.

disproportionate for H3G because of its limited size. The discriminatory regime is distorting the development of competition in the market and Ofcom needs to act to remedy this further harm created by the current regulation.

2 Responses to questions 1 - 11

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

Calling Party Pays works so that some of the cost incurred to enable calls to be made to mobiles is recovered from callers to mobiles (e.g. in termination payments) and some is recovered from mobile subscribers (e.g. in acquiring handsets). Receiving Party Pays (or, more accurately, Mobile Party Pays) results in the mobile subscriber paying for the cost of calls to mobiles *and* calls from mobiles. The charging structure of MPP systems results in a much higher overall cost of mobile ownership compared with CPP systems. The consequence is that MPP systems perform much more poorly in terms of mobile penetration. Despite high US incomes, the US still had a level of mobile penetration of 62% at the end of 2004[16] well below the 90% penetration levels common in other developed economies. Even if the US eventually approaches mobile penetration levels of other countries, there would still have been a substantial consumer loss from the years in which many US consumers have been without a mobile phone. While some commentators have noted that the US has relatively high minutes of use per subscriber, this may be due precisely to the fact that mobiles are less of a mass market proposition in the US than in CPP countries. Mobile ownership is simply not affordable to many low income people in the US. The different performance of MPP and CPP can be seen by countries that, recognizing CPP's superiority, have moved to replace their MPP systems with CPP:

> "…the increase in subscribers as a result of implementation of CPP is striking. Peru set up CPP in May 1996 and by the end of the year the number of cellular subscribers increased over 150 per cent compared to the previous year. In Argentina, the introduction of CPP resulted in an explosive growth of 179 per cent in 1998, even if those receiving calls must still pay for calls between mobiles. In Mexico CPP was introduced in April 1999 and, subsequently, the number of subscribers went up during the next three months by 1.1 million[17]".

MPP may also lead to perverse incentives as the person initiating the call to a mobile is not the person who pays for the call. This can risk greater nuisance or spam calls and can lead to mobile owners switching their phones off, thereby reducing the very contactability benefit that is the hallmark of mobiles.

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[16] CTIA, *Semi-Annual Wireless Industry Survey*, 14 March 2005.
[17] Blois, R. (Deputy Secretary-General, ITU), "A Wireless Brave New World: Challenges and opportunities for Latin America" in *Connect-World Latin America Second Quarter Issue 2001*.

An imposed general switch to MPP would also involve substantial disruption to consumers and the industry. Some consumers, who have acquired their mobile phones under a CPP system, may find that the value of the investment is diminished if they are forced to switch to a MPP plan. The industry would face substantial costs in redesigning and implementing new billing systems.

T-Mobile believes that operators should be allowed to commercially determine if different charging structures are appropriate for particular services on a case-by-case basis. Operators are in the best position to judge whether there is likely to be sufficient consumer demand for a different charging structure to justify the costs in implementing such a structure for a particular service. Where the economics support such arrangements, they can be expected to be offered and consumers will then have the option of taking up these arrangements if they meet their needs.

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?

T-Mobile believes that technological change will dramatically alter the supply conditions of mobile termination (see response to questions 3 and 4 below). However, this will not be via the technical arrangements discussed in paragraph 3.4 of the consultation, which would prove highly inefficient. Widespread use of multiple SIM cards implies duplication of customer information by operators in their systems whereas common or shared location registers carries a high degree of business risk for operators. For such arrangements to be fully effective, new phones would need to be developed and distributed that enable automatic switching between networks. Moreover, the switch to new phones would need to be imposed on mobile subscribers who may be reluctant to move from existing arrangements.

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?

Voice over Internet Protocol (VoIP) will have a major impact on the supply of fixed and mobile voice calls during the next 3 years. Skype, which can be downloaded for free, currently provides on-net calls (i.e. between Skype users) and Vonage offers unlimited calls to any landlines in the UK and Ireland for £9.99 a month. Established players, including BT, Cable & Wireless and Wanadoo, have developed their own VoIP offerings providing significant discounts off their standard prices. As Ofcom's Communications Market 2005 noted VoIP is making significant inroads amongst UK business users with existing fast broadband connections. Its use amongst residential customers is also catching up as residential broadband penetration takes off with over 7.5 million households connected to broadband in May 2005. New services include the ability to make VoIP calls using WiFi, which is being facilitated by combined GSM/wireless

handsets such as those of i-mate being produced with Skype's software already pre-loaded[18]. Coffee Telecom is expected to launch VoIP services in the UK using existing mobile handsets in 2006. Verizon Wireless is trialling VoIP over CDMA[19].

The FCC has noted

> "Increasingly, these customers will speak with each other using VoIP based services instead of circuit-switched telephony and view content over streaming Internet media instead of broadcast or cable platforms. By doing so, they will change, fundamentally, their use of these applications and services – consumers will become increasingly empowered to customize the services they use, and will choose these services from an unprecedented range of service providers and platforms…In this Notice, we seek comment on whether the proliferation of services and applications utilizing a common protocol may permit competitive developments in the marketplace to play the key role once played by regulation…For all these reasons, the changes wrought by the rise of IP-enabled communications promise to be revolutionary[20]".

While mass-market take-up of VoIP services is still some way off, the magnitude of its likely impact is forcing operators to take steps to position themselves now. For instance, a recent analyst's note on European telecoms reports that:

> "Some PTOs are moving to head off the threat: initial DSL+VoIP bundles from KPN, FT and Telenor imply 17–20% price cuts [from previous switched retail prices]…But the key is that the Telenor and FT VoIP packages vastly reduce the potential returns for new entrants from positive 42–56% to below 0%[21]".

In other words, operators' current responses to VoIP are already impacting the competitive dynamics of markets by altering expected returns to different business models including the economics of new entry.

VoIP will affect the supply of mobile termination in a number of ways.
First, the level of termination charges helps determine what proportion of customers are prepared to call through to a person's mobile phone without checking whether that person may alternatively be contactable at lower cost, such as via their fixed phone at home or work (the vast bulk of calls to mobiles are to family, friends and colleagues with a high likelihood that the caller knows an alternative fixed number for the person being called). The convenience of calling through to a mobile can be expected to be weighed against the savings that may otherwise be obtainable and hence the larger the gap between the costs of calls to mobile and other ways of contacting the person, the smaller would be the expected volumes of calls to mobiles. VoIP fundamentally reduces the price of the alternatives to calling to a mobile, such as via low prices for calls to VoIP phones and, over time, low prices for VoIP calls using WiFi and WiMax. This implies that some

[18] http://www.clubimate.com/t-SKYPE.aspx
[19] Wireless Watch, "Vodafone takes the fight to VoIP", 18 July 2005.
[20] http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-04-28A1.pdf p.1-5.
[21] Morgan Stanley, *Equity Research Europe – Telecommunications Services*, 13 June 2005, p.22-25

people will bypass calls to mobiles altogether and even those who continue to make calls to mobiles can expect the price of those calls to be more heavily constrained to prevent further loss in volumes.

Second, mobile operators have been seeking to encourage customers to "cut the cord" entirely and use mobiles as their sole means of telephony. While customers making such a decision may be prepared to incur some premium over fixed prices for the features and services of mobile phones, clearly large scale substitution of fixed lines for mobiles requires mobile pricing remaining competitive relative to fixed prices. This extends to not only prices for outgoing calls but also to the price of incoming calls, as customers will not be prepared to choose a mobile phone as a sole means of telephony if it results in a large loss in the number of calls they receive. Again, the proliferation of VoIP offers creates additional competitive pressure on mobile operators to keep all call cost competitive, including incoming call costs, so as to facilitate switching away from fixed lines. Moreover, mobile operators are being forced to price defensively to limit the loss in traffic in the other direction through the take-up of fixed/mobile convergent services which will see customers increasingly using VoIP over WiFi with mobile networks only being used when out of range.

Third, the development of VoIP for 3G phones will mean that customers will increasingly be able to use VoIP even for calls to mobiles. This could readily result in individual calls to mobiles being free such as currently occurs with calls between fixed broadband customers who have both downloaded Skype's software. In the future, such mobile users may only pay a fixed monthly charge providing for a particular level of data usage. The take-up of such services will be greatly facilitated by the fact that the bulk of calls are between callers who regularly call each other (such as family, friends and colleagues)[22].

The consultation questions the likely impact of WiFi on two grounds. First, it notes that WiFi currently does not offer the same coverage as mobile networks. However, the bulk of mobile calls are made and received when the mobile customer is at home or in their place of work. Thus, a high share of mobile traffic is potentially vulnerable to being lost to WiFi networks and this risk forces mobile operators to price to limit the loss. The second point raised by the consultation is the claim that "the called party would need to be responsive to the price of inbound calls, and be prepared to incur some cost to reduce the cost to the person calling the mobile phone". This reflects a misunderstanding of the technology. Subscribers who download Skype on to a WiFi phone gain the benefit of being able to make VoIP calls at the same time as enabling others to use VoIP calls to call them. No additional effort or cost is required to enable incoming VoIP calls.

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

T-Mobile continues to be concerned that Ofcom examines a range of constraints on termination charges individually rather than considering whether the aggregate impact of the current and developing constraints will be sufficient to constrain termination charges.

[22] Survey evidence on calling patterns is presented in the Competition Commission, *Calls to mobiles report*, 2003, Appendix 6.1, p. 181.

As discussed in the introduction above, charge controls have been demonstrated to be a blunt weapon which does not achieve the intended end. Further, it needs to be recognised that mobile operators may be forced to introduce some innovations that harm their revenues, because a failure to do so when other operators do will result in an even greater loss in revenues. Moreover, only a relatively small number of marginal customers need to be prepared to switch to the range of alternatives in aggregate for termination charges to be effectively constrained, i.e. setting the price of termination 5% above the competitive level can prove unprofitable even if it causes only a minority of existing customers to switch to alternatives. As well as these general points, T-Mobile believes that the analysis should incorporate the impact of the following:

- There are many customers who are currently prepared to call people on their mobiles even when they could alternatively reach them on their fixed phones – the risk of losing these calls is one factor that would operate, in the absence of regulation, to prevent mobile operators from raising termination charges significantly (even if fixed and mobile services are not in the same market, fixed-to-fixed calls still impose some competitive constraint on fixed-to-mobile calls and this effect should be taken into account in determining the overall constraint on termination);
- With the growth of mobile penetration, there are now a large number of people who can substitute on-net calls and on-net SMS messages for particular fixed-to-mobile calls. The impact of this is significant as the prices of both on-net call and SMS messages are clearly competitively supplied;
- Instant messaging is already a core part of T-Mobile's offer in the US with current offers including US$4.99 for 400 messages a month and US$14.99 a month for unlimited messages[23] and AOL was the second largest sender and receiver of messages going to and from mobile networks in the US in 2004[24]. It has been introduced into other European markets and will be introduced at some time in the UK;
- As discussed in response to Question 3, VoIP and fixed/mobile convergent products will result in the loss of significant fixed-to-mobile call volumes to low cost VoIP alternatives as well as imposing a substantial constraint on the price of such calls to limit further loss in volumes.

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

In discussing a retail-minus approach, Ofcom notes (para.4.14) that it could:

> "result in spillover effects with the regulation of wholesale call termination affecting prices set in retail markets. Furthermore, it is possible that this spillover effect could be detrimental to consumer overall".

T-Mobile believes that this has been precisely the effect of the current charge controls – mobile retail prices are now higher than they otherwise would be and, particularly given

[23] See http://www.t-mobile.com/services/messaging_instant.asp
[24] http://www.bbcworld.com/content/clickonline_archive_21_2004.asp?pageid=666&co_pageid=2

the failure of fixed operators to fully pass through lower termination charges into retail fixed-to-mobile prices, the regulation has harmed consumers overall.

T-Mobile believes that termination charges are inextricably linked to mobile retail prices because termination charges impact the marginal revenue associated with mobile subscribers. Ofcom itself recognises such a linkage noting, for instance, that "high termination charges subsidis[e] low prices for retail mobile services provid[ing] consumers with distorted price signals" (para. 2.16). Thus, it might be thought that a remedy that led to costs being recovered more evenly across mobile services would be exactly what Ofcom was after. A retail-minus approach would also have the key benefit of avoiding the need for Ofcom to seek to estimate mobile costs through drawn-out and often highly inaccurate cost modelling. T-Mobile also believes that concerns that retail price setting may be made less competitive could be addressed by linking an individual operator's termination charges to an industry basket that excludes the operator in question. The practicality of measuring such a basket should not be beyond the wit of a regulator that routinely enforces price cap regulation.

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 controls leave it open for operators to set an implicit rate for 3G termination at whatever level they choose. The actual blended 2G/3G rate will incorporate this implicit 3G rate. Moreover, the freedom to set the implicit 3G rate implies that the blended rate need not be constrained by the actual volume of 3G calls terminated, i.e. even one 3G call being terminated would conceptually enable a blended rate different to the charge control level.

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?

T-Mobile is concerned that while Ofcom focuses on potential future distortions to an individual operator's technology decisions, it fails to address the serious current distortion created by the existing charge controls. By leaving H3G unregulated, Ofcom has allowed H3G to set termination charges around double those of other operators and it is using this artificial regulatory advantage to grow its market share at the expense of the other operators. High termination charges enable H3G to undercut the other operators' retail offerings. H3G can no longer be regarded as a start up operator: its current subscriber numbers and revenues exceed those of the 2G operators when first regulated. To prevent further harm to competition and efficiency, Ofcom needs to act now to rein in H3G's termination charges. The urgency of this matter far exceeds academic speculation

on whether operators may develop technology to determine which frequency is used in terminating particular calls.

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?

In setting charge controls, Ofcom is required under Article 13(1) of the Access Directive to "…take into account the investment made by the operator and allow him a reasonable rate of return on adequate capital employed, taking into account the risks involved". For the combined 2G/3G operators, this requirement translates into ensuring the operators are able to receive a reasonable return on their 2G and 3G investments as well as the costs arising from the migration from 2G to 3G.

Determining the LRIC of providing 3G services is subject to huge uncertainties, particularly in relation to the level and path of future demand for new services. However, there are good reasons for believing that operators' costs will not be lower than under 2G. The UK Government sold 3G licences in a competitive bidding process in which the economic value of the licences to operators was fully captured in their prices. This suggests that expected revenues are likely to only just recover costs, including the costs of the 3G licences, and this cautions against any further reductions in the level of the charge controls[25]. Indeed, the controls may need to be higher to help recover the costs of running dual 2G/3G networks.

A further consideration is that operators have incurred substantial risks in investing in 3G, including acquiring licences and rolling out their networks. Much of these costs are sunk (i.e. a large proportion of the expenditure would not be recoverable if 3G proves unsuccessful) and, as noted above, the returns on the investment are subject to large uncertainties. Even if 3G costs turn out to be lower, there is little justification for Ofcom to intervene to push the charge controls lower. Instead, the ability to capture cost savings if 3G is successful compensates for the risk of incurring large losses if 3G does not succeed. If Ofcom were to intervene to require cost savings from risky new investments to be passed through, this would harm the incentive to undertake such investment by truncating the distribution of returns on such investments. Some investments that would be efficient to be undertaken would no longer be carried out as the expected (*ex ante*) return on these investments would be pushed below the cost of capital[26].

[25] Indeed, some operators have already incurred losses in the billions of pounds associated with the write-down of their 3G licences. For instance, O2 wrote-off £2.3 billion of its UK assets in 2003, principally in relation to its 3G licence (Peter Erskine, Speech to Shareholders at the mmO2 plc AGM, 30 July 2003).
[26] This issue is discussed further in R. Pindyck, "Mandatory unbundling and irreversible investment in telecom networks", NBER Working Paper 10287, February 2004 and in J. Hausman, "The effect of sunk costs in telecommunications regulation".

To alternatively set prices that were no higher than the most 'efficient' form of termination would prevent operators from recovering their costs in violation of Ofcom's obligations under the Access Directive. Moreover, the existing investments in 2G can hardly be said to be inefficient simply because a new technology has been developed (and even if that technology turns out to be lower cost). These investments have not only provided consumers with mobile services to date but their cost also represents a form of insurance in that 2G services would still have been available in the event that 3G technology had been delayed even further. It is entirely artificial to suggest that setting mobile prices in line with the costs of the latest mobile technology mimics a competitive market. The reality is that as new mobile technologies are developed, they take years for deployment and for a large part of the customer base to have handsets that support the technology. Thus for years, a conceptually lower cost technology would in fact experience substantially higher costs. These timing factors are important as they provide the incentive for mobile operators to undertake irreversible investments today even with the risk that a new lower cost technology may be developed in the future. To regulate to artificially remove such timing factors would seriously deter new investment. It is noteworthy that patent law acts in precisely the other direction, e.g. by enabling pharmaceutical companies to have a period free of competition, patent laws provide the incentive for risky investment in R&D of new medicines.

In any event the question ignores the reality of the costs which MNOs are currently incurring in running (or using) both 2G and 3G networks, and until such time as the coverage of both networks and the population of customers is equivalent, handing over traffic from one network to another.

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

As discussed in response to Question 8, T-Mobile believes that, if charge controls are maintained, they should be set so as to enable operators to receive a reasonable return on their 2G and 3G investments. Under such a cap, operators would maintain the incentive to terminate calls on the lowest cost technology as their returns in doing so would be greater. A single cap is also likely to be the only practical arrangement in the period ahead as operators cannot identify the frequency on which a particular call was terminated. Attempting to fine-tune regulation with separate 2G and 3G caps runs the risk of error and distortions. In addition, it is not yet clear to what extent the LRIC model currently prepared will be robust enough to take into account that operators have different strategies which affect the design and the deployment of their 3G networks and may therefore cause different costs.
Furthermore, a single cap might better incorporate the higher costs that operators incur in running at the same time two networks with different equipment.

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?

T-Mobile sees no rationale for Ofcom to regulate termination on mobile-to-mobile calls. Instead, mobile operators should be allowed to bilaterally set their termination rates to each other. This has resulted in a variety of arrangements including bill-and-keep (i.e. zero termination charges) in France (at least until the French regulator intervened to end it on curious grounds)[27]. T-Mobile does not believe the theory or evidence suggests unregulated termination charges harm the development of mobile competition:

- customers of smaller networks both make *and receive* a relatively large proportion of off-net calls from other networks and can respond to eliminate any pricing disadvantage including through low on-net prices which do not cost the small network much given its small subscriber base[28]; and
- new mobile entrants have been able to quickly gain market shares when mobile termination has been unregulated.

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

T-Mobile believes that Ofcom should forebear from regulating data services. These services are still developing and there is no evidence that the lack of a charge control creates any detriment to existing consumers. Customers are increasingly taking up bundled offerings that include large volume of SMS messages, offering substantial discounts on average SMS prices. Regulation is therefore not appropriate.

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[27] Bill-and-keep was also historically used for SMS termination until SPAM messages became a problem.
[28] See, Frontier Economics, "On-net/off-net differentials", March 2004.