



Internet Telephony Services Providers' Association

ITSPA response to DCMS Consultation 'Tackling partial Not-Spots in Mobile Phone Coverage'

About ITSPA

The Internet Telephony Services Providers' Association (ITSPA) is the UK Voice over IP (VoIP) industry's trade body, representing over 80 UK businesses involved with the supply of next generation voice communications services to other communications companies, businesses and residential customers both within the UK and abroad. ITSPA pays close attention to the development of VoIP regulatory frameworks on a worldwide basis in order to ensure that the UK's next generation voice telecommunications industry is as competitive as it can be within international markets.

Please note that certain aspects of the ITSPA response may not necessarily be supported by all ITSPA members. Individual members may respond separately to this consultation where a position differs. However the ITSPA Council is confident that this response reflects the views of the overwhelming majority of ITSPA members.

A full list of ITSPA members can be found at <http://www.itspa.org.uk/>

Introduction

ITSPA is pleased to have the opportunity to respond to this important consultation. Mobile is an increasingly important technology for enabling ITSPA members to deliver their services to customers and we are very keen to see the quality and coverage of the UK mobile networks maximised. It is essential that any measures include mobile data.

ITSPA believes that Government policy initiatives could bring about improvements to UK mobile infrastructure that would, in turn, benefit associated sectors that are dependent upon it - including our own.

ITSPA would be very happy to meet with or provide further information to DCMS should that be helpful.



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Executive Summary

ITSPA has reservations about the extent to which the UK mobile market is truly open and competitive. Our experience of the behaviour of some MNOs in blocking or otherwise frustrating our members' attempts to offer voice and messaging services over (paid for) mobile data services suggest an oligopolistic market. We note that both major MVNOs were established by mobile operators as joint ventures – only Carphone Warehouse has managed to build a significant business in the mobile market without equity participation by a mobile operator. The recent demise of its competitor Phones4U surely bodes ill for any independent player in the sector.

Accordingly **ITSPA believes any measures adopted should increase competition and certainly should not reinforce the existing oligopoly.** We believe that the national roaming and site sharing proposals – if limited to the big four MNOs – would simply reinforce the existing situation and create even higher barriers to entry. With forthcoming spectrum auctions this cannot be good for the industry or the economy.

The market has built all the coverage that it can justify building so in the context of an oligopoly with very high entry barriers **it is both necessary and appropriate for the government to consider measures to address UK mobile coverage.** ITSPA believes the problem of not-spots is significantly worse than is recognised by the consultation document. From a customer perspective coverage means 'where my mobile is right now' – if my phone is charging in the kitchen and there is no coverage there then I am in a notspot and I cannot receive calls and messages – even if there is coverage upstairs or in the garden or the street.

ITSPA wishes to emphasise the importance of mobile data. **The inclusion of mobile data is vital to achieving the purpose of this consultation and must be included in any resulting measures** for three reasons:

1. Any measures that do not include mobile data (such as the draft proposals for national roaming and multi-operator MVNO models) will severely and permanently distort the UK communications market because only the native voice and messaging services offered by MNOs will be available in the newly-created coverage areas. The solution is simple; include mobile data in any measure.
2. It is clear that mobile data is driving capacity growth – voice minutes are flat and text messaging is declining rapidly due to substitution by services carried over mobile data. More and more consumer services are being delivered as apps onto mobile services. If data is excluded from any notspot remedy then the UK economy is being denied the benefits of extended data coverage. Given the vigorous debate about rural broadband it would surely be absurd not to extend mobile data coverage.



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3. Mobile data increases the revenue that the mast owner receives from roaming partners and MVNOs. Therefore any economic objections are diminished by including mobile data within the remedy.

ITSPA believes the way forward is clear; **The government should adopt the full MVNO version of the multi-operator MVNO proposal, it should include mobile data and it should allow (but not oblige) MNOs to request MVNO services from one another.** We believe this will result in better coverage for consumers, a more vibrant wholesale market for mobile services and more widely available mobile data services. We think that this approach minimises the cost and impact on MNOs and is therefore less likely to be contested. This approach would benefit customers, the mobile industry, those - including ITSPA members – who deliver services over those networks and the UK economy as a whole; it should be implemented.

Response to Questions

Q.1: Do you agree that there is a need to improve the coverage of voice and text services in partial not-spots and that Government should seek to extend such coverage?

ITSPA Response: Yes. We believe there is a need to improve mobile coverage in its totality – not just voice and text services – for reasons we set out in the introduction. We believe the Government should therefore seek to extend mobile voice, text **and data** coverage.

Infrastructure Sharing

Q.2: To what extent are sharing arrangements scalable beyond the simplest sites that could be shared?

ITSPA Response: ITSPA has no particular insight into the ability of MNOs to share sites but we note that site sharing appears practicable in most cases.

Q.3: Would the draft Direction to Ofcom at ANNEX A be effective in requiring sharing at all sites where there would exist a potential coverage benefit.

ITSPA Response: ITSPA doubts that the measures in ANNEX A will be effective. In particular:

- It is reasonable to assume that MNOs have built all the coverage they consider economically viable. Since they already share sites extensively it is hard to imagine that any coverage measure will increase sharing in such a way to make further sites viable that are not viable today.
- If the Government imposes a geographic coverage requirement then the cheapest way for MNOs to meet it is to build the minimum number of new sites necessary to achieve the maximum geographic coverage. Based on network coverage maps (for example those found at <http://www.ofcom.org.uk/static/research/mbb.pdf>) the likely outcome appears to be additional



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shared hilltop sites in the Southern Uplands and Cambrian Mountains. As the requirement is only for voice and text MNOs are likely to deploy recovered GSM equipment at these sites with low bandwidth microwave backhaul. Whilst ITSPA would like to see mobile voice and text coverage extended to such sparsely-occupied areas we do not believe that this on its own achieves the Government's objective. Building additional coverage to serve buildings, villages, transport arteries and fill gaps would be much more expensive for MNOs because the additional area covered per new site will be much smaller than covering fields and mountains and there are less likely to be site sharing opportunities - so the cost per square mile covered will be much higher. MNOs will choose fields and mountains.

- The measure appears to be conspicuously unfair on H3G who only obtained 1800MHz spectrum as a result of the merger of T-Mobile and Orange. What appeared a windfall may now appear more of a poisoned chalice – indeed it might well be sensible for H3G to swap the 1800MHz spectrum for some of EE's 2100MHz spectrum and thus escape the measure entirely.
- The measure does not provide any incentive to improve in-building coverage as this appears to be excluded from the measure. However for customers in-building coverage is usually more useful than extensive coverage of remote areas.
- If adopted (we do not recommend it) the proposed measures in the annex would need to be much more specific or they will be gamed by MNOs. For example MNOs could offer a satellite 'bolt on' to existing tariffs and claim they now 'offer' service to 89% of the UK land area. They could also choose to cover areas of water (lakes, estuaries, The Wash etc) since it is not entirely clear that the 89% is limited to dry land. Ofcom will face legal challenges every time there is any need for them to interpret the instrument unless they adopt the approach that is least onerous for MNOs. We suggest that the instrument would need to be amended to require Ofcom to impose a coverage requirement that is a. delivered using 900MHz or 1800MHz spectrum and b. is capable of sustaining mobile voice, text and data communication using a typical standard handheld mobile device indoors and outdoors over 89% of the land area of the UK.
- As drafted the measure also applies to holders of power-limited 1800MHz GSM guard-band spectrum. We assume this is unintentional.

Q.4: To what extent would the costings referenced in paragraph (**Error! Reference source not found.**) be generally applicable to all sites at which sharing may be required by the coverage obligation?

ITSPA Response: ITSPA has no particular insight in to MNO site costs.

Q.5: To what extent do you consider mast sharing will achieve sufficient improvements in tackling partial not-spots?

ITSPA Response: ITSPA does not believe that the measure will, on its own, increase the incentive for mast sharing as it involves no compulsion. MNOs might believe it is in their interests to require their



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competitors to build more sites to meet the coverage requirement and thus increase their cost base. This would be particularly damaging for H3G who will require many more sites than anyone else to achieve the geographic coverage requirement.

MO-MVNO

Q.6: Would the draft Direction to Ofcom at ANNEX B be effective in enabling the creation of multi-operator MVNO offerings in the UK, and why?

ITSPA Response: ITSPA favours this approach but does not believe the measure would be effective as drafted because it excludes data. We do not believe any MVNOs are likely to avail themselves of a facility that is limited to voice and text only. However if the measure was extended to include data and access to the associated 4G bearers then we believe this measure will be effective.

We believe that if a large independent MVNO such as Virgin Mobile aggregated coverage across multiple networks then MNOs would probably follow suit. At the very minimum end users currently inconvenienced by partial not-spots would have a solution.

ITSPA further believes that this options is the most likely to succeed because it minimises the obligations imposed on MNOs and thus minimises the potential for legal challenge. All four MNOs offer MVNO services today so the additional obligations will have little financial impact on MNOs. They will certainly be much less than the fees those same MNOs have avoided paying since February 2012 in respect of their 900MHz and 1800MHz spectrum.

Q.7: To what extent would the costings referenced in paragraphs (**Error! Reference source not found.** and **Error! Reference source not found.**) accurately represent the cost of establishing an MO-MVNO as described?

ITSPA Response: ITSPA has no particular insight into the costs of establishing an MVNO. We would expect mobile virtual network enablers to emerge – possibly backed by equipment vendors such as Ericsson, Nokia and Huawei – which will reduce the cost to smaller MVNOs.

Q.8: Are there any practical considerations for the two MO-MVNO models described in paragraph (**Error! Reference source not found.**) that would favour either as a solution for partial not-spots?

ITSPA Response: ITSPA believes option (a) in which calls and sessions remain anchored in the MVNO core – is to be preferred. This mechanism overcomes difficulties in meeting legal intercept requirements and allows MVNOs to offer a consistent service regardless of the network they are roaming on. Option (b) is crude and cannot deliver an sort of seamless experience.

National Roaming

Q.9: Do you consider that national roaming should be implemented in the UK? Please give your reasons.

ITSPA Response: ISTPA does not favour this approach because it reinforces the dominant position of the incumbent MNOs. However it is probably better than the coverage obligation.

Q.10: Do you think the draft direction at Annex C will be effective in delivering national roaming?



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ITSPA Response: We do not believe the measure will be effective as drafted because:

1. It creates a permanent oligopoly amongst the 4 existing MNOs but excludes existing and future holders of licensed mobile spectrum.
2. It is limited to voice and text – this seems an unnecessary restriction that severely reduces the effectiveness of the measure.

Any workable measure needs to be extended to all licensed spectrum holders. However we note that the number of roaming agreements required would then expand significantly. For this reason we think the multi-operator MVNO approach will be more efficient for the industry (assuming mobile operators have the same rights to request access to other network as MVNOs would have).

Q.11: Should there be a mechanism for controlling maximum prices for roaming minutes, and should this be at the site level described above and in the Schedule to the draft Direction?

ITSPA Response: ITSPA believes that any roaming or MVNO arrangement will need to include measures to ensure costs are reasonable. We suggest an established method based on LRIC would be appropriate. We cannot imagine how a site-based pricing model would work – it would be extremely complex to administer, generate perverse incentives (for example by encouraging operators to avoid offering mobile data at 'expensive' sites), would likely generate disputes and we need to be continuously revised as the cost would be presumably a function of traffic.

Assuming any LRIC model used yields a return for the MNO (because there costs in respect of any site are essentially fixed) there is a reward for any MNO that offers roaming or MVNO access to a site. This acts as an incentive to build sites in places where the MNO's own customer base might be insufficient.

Q.12: To what extent does the method described above for determining the cost of providing voice roaming services accurately capture the cost base associated with the service?

ITSPA Response: We believe that the cost base for a mobile site is largely fixed. Therefore any roaming or MVNO revenue is incremental for the MNO. It is hard to believe that MNO cells in partial not-spots are generally congested (since not-spots are likely to exist in low-demand areas) and so MNOs are likely to be able to provide sufficient capacity to meet demand.

Q.13: Should there be a mechanism for controlling maximum prices for roaming SMS services?

ITSPA Response: Yes, and for data as well. The same principles should apply as for voice.

Q.14: To what extent are agreements between landlords or wireless infrastructure providers and MNOs a limiting factor in pursuing passive infrastructure sharing, multi-operator MVNOs, or national roaming?

ITSPA Response: We note that mobile network sharing arrangements such as MBNL and Cornerstone have been established specifically to share sites, that all four networks offer MVNO services and all four networks offer international roaming. We would therefore be astonished if there is any material difficulty with roaming or MVNO use of sites.



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Following our technical advice we have assumed that roaming could be operational by the start of 2016, a Multi-Operator MVNO could be operational by mid-2016 and passive infrastructure sharing could be operational by the start of 2017.

Q.15: Are these proposed timings feasible and to what extent can they be accelerated?

ITSPA Response: We suspect a multi-operator MVNO could be operational earlier if Ofcom moved quickly to standardise the features and interfaces to be used.

Non-Monetised Costs

The risk of MNOs switching off unprofitable masts under roaming is assumed to be manageable through setting mast by mast prices.

Q.16: Is this a reasonable assumption and would mast by mast pricing be an effective solution? Are there alternative solutions?

ITSPA Response: We do not believe that the proposed measures will result in MNOs switching off masts they would otherwise keep running. We note that:

- The whole point of Cornerstone and MBNL is to reduce the number of masts and associated infrastructure anyway. EE have already switched off a significant number of masts as a result of the merger of the T-Mobile and Orange networks. We do not see that an MVNO or roaming requirement increases this trend – mobile operators will share where it is cheaper.
- To the extent that roaming and MVNO traffic increases the use of marginal masts then they may become profitable.
- No national mobile telecommunications network can manage itself based on a notion of 'profitable masts'. Rather the coverage offered by each MNO is matched to the demands of the market and the offering of competitors. It is inevitable that some sites are highly loaded (and hence 'profitable') whilst others are lightly loaded – but the existence of the lightly loaded sites is necessary to acquire a customer base in the first place.

Q.17: Can you provide any evidence of the impact of roaming on battery life, dropped calls and loss of data service through 2G signal lock?

ITSPA Response: We have no specific information on this however we note that roaming arrangements have been and are used in the UK; we understand 3 roams onto EE and mutual roaming between T-Mobile and Orange was introduced following their merger. We are not aware that these arrangements have caused significant problems for customers and we do not expect the proposed measures to cause significant problems either provided the MNOs offering MNO / MVNO services are cooperative. DCMS may wish to ask Ofcom whether they observed an increase in complaints about battery life from T-Mobile and Orange customers when roaming was enabled between those networks and whether Orange customers are more likely to complain about battery life than Vodafone or O2 customers.

Q.18: To what extent could user customisation enable consumers to avoid these impacts?



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ITSPA Response: We believe that impact would be small provided MNOs cooperate with roaming partners and MVNOs. The main driver of battery life in a mobile is the screen not the radio. Assuming data is included in any measure we believe any 2G lock issues will diminish as 4G is rolled out in the 800, 900 and 1800MHz bands since we would expect 2G to be the least preferred technology.

Q.19: Are there any other substantial consumer issues which roaming could cause which are not covered in the Impact Assessment?

ITSPA Response: We believe the success of Virgin Mobile as an MVNO, 3 as an example of inter-network national roaming and Orange-T-Mobile as an example of larger scale intra-network roaming shows that there are no substantial consumer issues with either the multi-operator MVNO or the national roaming proposals.

Q.20: What are the likely costs of ensuring that networks would be resilient to "mass roaming" where all the users of one network roam onto another in the instance of an outage on their network?

ITSPA Response: We do not believe this risk is material – rather we think the availability of roaming will increase the resilience of UK networks and also provide an incentive for MNOs to avoid large-scale outages as they will now incur roaming charges during the outage.

We note that MNOs already have mechanisms for avoiding 'registration storms' when they bring up one of their own base stations and EE presumably has measures in place to deal with an outage on 3's network. We also note that networks are used to and have mechanisms for handling significant unexpected demand – for example when a commuter train enters or leaves a cell. If MNOs can cope with serving London Bridge station they can cope with any difficulties caused by outages.

Monetised Benefits

The benefits of roaming and infrastructure sharing have been monetised using willingness to pay (WTP) data for visitors to total not-spots, as described in the Impact Assessment. This assumes that visitors to a partial not-spot who do not have access to the network operating there experience this as a total not-spot.

Q.21: Is this assumption reasonable?

ITSPA Response: We believe the basis for evaluating not-spots should be the total value created by providing service. This includes willingness to pay for voice, text and data, the value of calls received and the broader value to the economy of providing communications infrastructure where there is none today.

Q.22: Can you provide any further evidence on the experience of visitors to a partial not-spot?

ITSPA Response: We believe that users would like to be able to make and receive voice calls, send and receive messages and use mobile data services (including the services of ITSPA members) everywhere. To the extent that mobile coverage is not ubiquitous and mobile data speeds over 2G are very low customers are disappointed and frustrated. They would willingly use another network provided the experience is seamless.



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Non-Monetised Benefits

Residents and businesses in partial not-spots are assumed to mainly benefit from additional choice of providers rather than additional coverage, as set out in the Impact Assessment.

Q.23: Can you provide any further evidence or data on this and other benefits to residents and businesses in partial not-spot areas?

ITSPA Response: We do not entirely agree with this statement. Not all users are able to choose their MNO (for example where the network is chosen by an employer) and even when the user is also the purchaser there is often a trade-off between networks. For example a customer may need to choose between a network that provides only 2G services at home and at their work place and a service that provides 3G or 4G at work but no coverage at all at home. Different choices are rational depending on the circumstances of the customer but of course the best option is to have mobile voice, text and data available everywhere.

We believe very strongly that mobile data must be included in any measure. This is to avoid distorting the market and because data services are increasingly dominating users behaviour. In particular any measure that improves MNO-provided voice and messaging coverage but does not extend data coverage creates a permanent and significant market distortion. Industry participants who offer 'over the top' services that compete with MNO-provided voice and text services have a smaller coverage footprint than MNO-provided services. There would be no WhatsApp or Skype when roaming. This would deprive consumers of services which they plainly value and offer MNOs a permanent competitive advantage over OTT service providers.

The Multi-Operator MVNO option assumes there is sufficient demand from consumers to support such a solution.

Q.24: Can you provide any further evidence on the demand for such a service and the benefits that consumers might receive from it?

ITSPA Response: We believe large independent MVNOs (such as Virgin Mobile) would take advantage of the multi-operator MVNO model for two reasons:

1. It would provide them with superior coverage and therefore a differentiator.
2. It would allow them to more effectively manage their wholesale costs as they could choose which roaming partner to favour based on rates offered and by connecting to multiple networks they can more credibly move supplier altogether.

ITSPA observes that both the major UK MVNOs were set up as joint ventures between MNOs and third parties. This suggests that the wholesale mobile market is rather less healthy than might be supposed from a cursory glance. Furthermore ITSPA's experience with MNOs blocking VoIP traffic suggests a market that has more oligopolistic than truly competitive features.

Q.25: Please let us know if you have any additional comments on this consultation.

ITSPA Response: No further comments.