Tackling Partial Not-Spots in Mobile Phone Coverage

Response to DCMS consultation. From the Federation of Communication Services.

The Federation of Communication Services represents companies who provide professional communications solutions to professional users. Our members deliver telecommunications services via mobile and fixed line telephony networks, broadband, satellite, wi-fi and business radio. Our members' customers range from SMEs, home-workers and micro-businesses up the very largest national and international private enterprises and public sector users. FCS is the largest trade organisation in the professional communications arena, representing the interests of nearly 400 businesses with a combined annual turnover in excess of £45,000million.

FCS is pleased to have this opportunity to respond to this timely consultation from DCMS. It has long been our view that the regulation of the UK markets for both fixed and mobile telephony infrastructure need to be scrutinised from first-principles by Parliament, and we look forward to helping inform the development of this work in the coming months.

General introduction

The regulation of mobile networks in the UK predates the privatisation of British Telecom. It was drawn up on the back of the experience of the former Radiocommunications Agency in regulating broadcast and narrowcast transmissions and the use of radio spectrum. The principle driver for the regulatory regime at that time was the need to encourage investment in new communications infrastructure. That task is now largely complete.

So it is appropriate to examine the fitness for purpose of the current regulatory requirements. The test should no longer be whether they meet the present and future needs of would-be infrastructure investors. But rather, whether they meet the present and future needs of the UK business and consumer users who use the services delivered over that infrastructure.

Where total 'not spots' still remain this is usually a function of geography and population density. ie, the elimination of not spots is a question of investment, rather than of technology. But the widespread persistence of 'partial' not-spots is an anachronism created entirely by the nature of mast site ownership in the UK.

We face a situation where what we might call the utility layer (mast sites and the associated back-haul infrastructure which enable mobile calls to be made) is owned by the same people who operate the retail layer (selling voice and data connectivity which will then be carried via the utility layer). Because of this, a handful of mast-site owners are able to control access to the entire retail market, where they all compete with one another.

Signal availability is therefore intimately tied up in the commercial propositions of the mobile network operators (MNOs).

This has many perverse results, none of which work to the benefit of UK consumers. To name but four:

- Firstly, access to the wholesale market is effectively closed to anyone the MNOs don't want to deal with. This blocks the kind of innovative and disruptive business models which have transformed market dynamics in other markets like retail or travel.
- Secondly, it has the effect of creating virtual local geographic monopolies. Users have no choice but to buy services not on price or functionality, but simply on the basis of whichever MNO can provide a signal in their locality.
- Thirdly, thanks to EU developments in roaming charges, people with a phone from another EU member state can roam at will and thus enjoy a degree of connectivity denied to UK citizens.
- Fourthly, as a result of this, UK telecoms service providers are seeing growing demand for French or Belgian SIM cards from builders and other trades which have to work at multiple sites in a region. They would rather have a French number which roams without restriction, and thus works all the time, than an English one which doesn't. This trend we expect to increase with the potential introduction of the EU regulation with regard roam traffic being charged at the same rate as home traffic. We understand this may come into force as early as July 2015.

For this reason, FCS has a long-standing position that the mast sites and utility infrastructure owned by the MNOs should be completely, legally, separated from their retail operations. In much the same way as BT's retail and wholesale operations in the fixed line market are legally separated from their exchange and utility operations.

Answers 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?

Yes absolutely. The current model favours the MNO's own balance sheets and leaves the consumer and UK Business with an intermittent service and lack of truly competitive choice of MNO due to concerns about coverage quality. This is true even in urban areas. The top of the Shard, for example.

We are disappointed that at this stage National Roaming for Data has not also been included. Data is every bit as important as voice for many mobile consumers -- and for UK plc. See, for example, the recent Ofcom survey where voice was 6 on the list behind data services!

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

We do not doubt more sites could be shared. But we would foresee this only giving limited additional benefit to the consumer and UK PLC. We don't see this as a viable option when National Roaming gives all the benefits of "Sharing" and is much more transparent and offers greater benefits to the User

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.

The choice of spectrum bands specified in the daft Instrument may need to be reviewed, as mobile voice is not carried exclusively in the 900MHz and 1800MHz bands. The coverage obligation attached to Telefonica UK's licence for spectrum in 811-821MHz and 852-862MHz in the 2012 'digital dividend' auction is for availability of a 4G signal inside 97% of UK premises by the end of 2017. (Equivalent to greater than 99% coverage outdoors). If consumers are expecting 97% indoor availability of 4G data services, then their expectation for availability of voice is likely to be at least as high.

Q.4: To what extent would the costings referenced in paragraph (54) be generally applicable to all sites at which sharing may be required by the coverage obligation?

We would not agree that call charges to the user should vary depending upon whether the call is On-Net or Off-Net (roamed). Technically, this makes billing difficult to understand for the consumer. It would also inevitably increase the costs of the MNOs to implement changes to billing system. We would recommend that the charge for National Roamed calls would be set by Ofcom using the same model as the current Fixed Line market so for example all Roamed calls are charge at x.xxp. These charges would have to be strictly enforced by Ofcom to avoid a repetition of the Mobile Termination Rate debate/changes

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

This option is more beneficial to the MNO than it is the consumer. We would see little benefit in pursuing this option when National Roaming can be implemented.

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?

The principle is sound and the direction of travel very welcome. But care would need to be exercised. Who defines what is or is not a suitably-sized organisation to be able to act as an MVNO? And on what commercial terms shall the services be supplied? To make this proposal work, Ofcom would need to be involved in setting wholesale price controls and mandating an open wholesale market for mobile minutes. The choice of spectrum bands specified in the daft Instrument may also need to be reviewed, as mobile voice is not carried exclusively in the 900MHz and 1800MHz bands.

Q.7: To what extent would the costings referenced in paragraphs (59 and 62) accurately represent the cost of establishing an MO-MVNO as described?

We do not have sight of the data used by DCMS independent technical advisers. But we do question whether these costs simply reflect the MVNO status quo (large companies, often retailers, working in partnerships with large MNOs). And whether they further reflect the MNOs' approach to pricing and making available minutes at the wholesale level, rather than the true costs of setting up an MVNO operation.

Subject to credit-worthiness checks (which should be agreed by Ofcom in consultation with the Competition and Markets Authority, rather than by the MNOs themselves), this is an opportunity to democratise the wholesale market. And thus increase competition, not just in serving certain geographic areas but perhaps in serving certain types of consumer or types of business.

Q.8: Are there any practical considerations for the two MO-MVNO models described in paragraph (58) that would favour either as a solution for partial not-spots?

We are not in favour of this model for the main reason it does not give the Consumer and UK Plc the best solution.   With regard to the two suggested models in paragraph (58), we would not favour the first option: this limits in reality who can actually become an MMVNO, as the current system is typically restricted to large business. This has the disadvantage of restricting innovation in the mobile market place.

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

National Roaming is the only one of the three options that will move the mobile networks to the point where the consumer and UK Plc is the focus and not the MNO. For too long now consumers have had restriction on who's network they can move to because of bad coverage -- even in urban areas. With the ironic situation that International users roaming in the UK get a more consistent service than home users. This is plainly absurd.

National Roaming would also give industry and the MNOs a simplified route (over time) to ensure coverage to all of the UK. For instance, it would remove the present commercial objections to creating a

Shared Ownership Company model of some kind in which all unprofitable mast sites could be included and paid for centrally by all of industry.

We also believe National Roaming would over time encourage MNOs to share more and more infrastructure which in turn which reduce the MNOs' operating costs.

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

The principle is sound and the direction of travel very welcome. In the short-term, it is most important that B, C, D and E are universally agreed and universally applied, to avoid endless arguments about the incremental surcharges attached to individual sites in remote or inhospitable locations. But we feel the long-term vision has to be for the complete structural separation of the mast/infrastructure utility-level operations from the retail operations. The choice of spectrum bands specified in the daft Instrument may need to be reviewed, as mobile voice is not carried exclusively in the 900MHz and 1800MHz bands.

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?

As per our response to Q4 we do not agree that call charges from Roamed sites be charged any differently to Home sites: this just adds cost to the MNOs and creates confusion for the consumer. Better to agree a rate with the various stakeholders, benchmarked by Ofcom against the rates usede by fixed Line providers. This benchmark must not be set in such a way as to allow the MNOs to make excessive profits as per the original Mobile Termination Rate. We would suggest setting a sliding scale, over X years to encourage MNOs to share infrastructure.

At an agreed date in the future we would suggest the National Roaming per minute excess levy be removed, as by that time the MNO should have reduced network cost sufficiently to no longer require the levy.

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?

We don't think it sufficiently takes into account the opportunity the MNOs will have to share infrastructure (like the current agreement between Vodafone and O2). And so over time reduce their network operating costs.

With regards to the cost necessary to enable National Roaming: we already have in place National Roaming for 999 calls and more importantly International Roaming within the UK. So we would suggest that many of the cost highlighted by the MNOs in Paragraph 87 have already been addressed. Also because National Roaming is a natural extension of International roaming many of the processes and steps are already available. They would not need to be "reinvented".

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

This should be covered in the same way as our suggestion for voice minutes in Q4 and Q11

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?

In the last analysis, such issues are either short-term timing concerns or simply irrelevant. The principles of shared passive infrastructure are already well established and understood by Ofcom, in the light of its experience with BT. The principles of multi-occupancy on radio mast sites are similarly very well established and understood both by Ofcom and by industry (see, for example, FCS1331 code of practice for radio mast site engineering.

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?

With regard to National Roaming, we believe this time scale is realistic

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?

As per our answer to Q9 we think National Roaming would have the opposite effect. MNO's should be encouraged to share network infrastructure along with the option to centralised unprofitable/remote mask sites into a central business, cost of which are shared by all MNO's. The net effect will be to improve network coverage for all, but at the same time reduce the MNO network operating costs. And thus in the long run reduce the cost of mobile services and calls for the consumer.

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?

Like many other technical issues that are having to be solved on a daily basis, if there are any problems they will be quickly rectified. But the reality is, does anybody notice that their battery life is any worse when roaming abroad than in the UK? We suggest not. This issue of dropped calls due to the National Roaming not being seamless could create some frustration. But calls are cut off today when users are not roaming so we think this will have little impact. Also going forward we would suggest that seamless handover could be viewed as a phase 2 that could be introduced by 2020?

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

Users will quickly become educated and comfortable with National Roaming, and battery life is improving with every new handset release, simply as a natural result of product development. The greater the universality of coverage, the less the problem.

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

The issue of difference in billing from Roam masts and Home masts should be dealt with at MNO level, not at consumer billing level. Presenting consumers with multiple tariffs for what they would regard as the same call will only cause unnecessary confusion. This is why we propose a structurally separated utility ownership model (which might well involve other, specialist utility companies as managers of the network assets).

In the short term, all MNOs have customers who will roam on other MNOs networks and vice versa. Do at the end of every month, they can tally up how many minutes their customers have roamed on other MNOs' networks, how many minutes other MNOs' customers have roamed on their networks, take the one away from the other and disburse a single balancing payment.

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?

This is a technical issue as much as a commercial issue and we would not see this creating any major problem for the MNO's. When you consider we have gone from zero mobile user in 1984 to 70 Million today without any obvious problems the issue of the unlikely occurrence of an MNO network outage could be engineered in.

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?

By not having a variable cost when using a Roam site as suggested in our previous answers this and the following questions will not be relevant

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

See Q21

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?

See Q21

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?

We don't see this as a viable solution if viewed from the Consumers and UK Plc perspective

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

We are disappointed that at this stage National Roaming for Data has not also been included. Data is every bit as important as voice for many mobile consumers -- and for UK plc. See, for example, the recent Ofcom survey where voice was 6 on the list behind data.

Security Issues around National Roaming - We note that within the consultation concerns have been raised by the MNOs in relation to providing data as required by the security services to be able to track movements and activity of suspicious persons, of which we all understand the importance.

As much as this may require some additional works by the MNOs we would suggest again that many of these elements will already be in place due to existing international roaming agreements. And if they are not already in place, it is likely they would have to be going forward (either voluntary or as a result of EU mandate) due to heightened awareness by National Governments as to the importance of this data.

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