Consultation on promoting trust in telephone numbers

Virgin Media's response

5th July 2019

Non-Confidential response

Promoting Trust in Telephone Numbers

Consultation Response

Virgin Media welcomes the opportunity to respond to Ofcom's "Consultation on promoting trust in telephone numbers" ("**the Consultation**").

As providers move more and more of their landline services to Internet Protocol (IP) technology, Virgin Media acknowledges that there is an opportunity to review existing processes related to the allocation, use and in-life management of telephone numbers, CLI assurance and the routing of telephone calls. It is right that Ofcom explores whether improvements to processes could be made, or whether existing problems could be addressed, to ensure that trust in telephone numbers is maintained. However, we believe that Ofcom has not adequately made the case for the principal proposal in this Consultation – the introduction of a Common Numbering Database – and has taken insufficient account of the potential for the new technology to address many of the issues with current processes that Ofcom sets out. Rather, it is likely that the costs and other consequences of such a database would far outweigh any benefits that it might deliver given the impending migration to IP.

In this response Virgin Media provides its views on the introduction of a database, as well as our thoughts on the areas highlighted by Ofcom as requiring improvement. We then go on to answer the specific questions set out in the consultation.

Section 1: Calling Line Identification authentication

Ensuring that measures are in place to reduce the number of unsolicited calls and "spoofing" will always be important to CPs. It is key to ensuring that consumers have trust in the telephone numbers that they dial and see on their devices.

In order to improve the verification and authentication of CLI, the Consultation recommends the implementation of the Secure Telephone Identity Revisited (STIR) standard and that, in order to support this implementation, a common numbering database would be required. Whilst Virgin Media has no principled objection to the introduction of the STIR, we do not believe that the concerns about CLI and spoofing would be adequately addressed by its introduction. The Consultation acknowledges this when it notes that there would remain a difficulty in *"authenticating non-UK phone numbers such as international calls."* It is our experience that the majority of unsolicited or scam calls occur when legitimate UK CLIs are injected from abroad. In these cases, the existence of STIR and a common numbering database would not solve these problems and consumers would continue to face the same issues as today.

The implementation of a common numbering database would be an unnecessary and disproportionate undertaking for the benefits that Ofcom suggest it could bring across CLI authentication, number management and porting. Rather than focus on the introduction of a common numbering database, Virgin Media believes that it would be more productive for Ofcom to look into ways in which it could support CPs in tackling the issue of nuisance calls that originate from overseas including co-operation between regulators in other countries.

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Ofcom also suggests that migration to IP may increase spoofing and therefore the need for CLI Authentication (and the associated introduction of a centralised database) increases. Ofcom has not considered the other ways in which a move to IP Voice can provide more innovative solutions to reduce fraudulent and nuisance calls, for example by providing better protection to customers through the use of new call screening technology. Nuisance call management in more broad terms has not been considered in any detail in this consultation, and Virgin Media considers that Ofcom needs to undertake a more comprehensive review of all measures available to tackle nuisance calling in order to determine the incremental value or of any one particular measure like STIR and a central database.

Alongside the migration to IP technology, there exists continuing work to improve CLI authentication and to reduce the amount of nuisance calls customers receive. (✂)

Section 2: Number Portability

As acknowledged in the Consultation, the current processes that support number portability are well established and tried and tested. Furthermore, from July this year we will see improvements to mobile number portability through the introduction of Mobile Switching Regulations. However, there are still incremental improvements that could be made to these arrangements specifically regarding fixed line business number porting.

The reliability and efficiency of the current processes rely upon communication between providers. There are opportunities to simplify these communications and make them more effective for both providers and the consumer – and we expect that the introduction of IP technology will increase these opportunities. For example, it will allow Virgin Media to take a more streamlined approach (✂) making Geographic Numbering Porting much simpler. The introduction of a common numbering database is not necessary to achieve such improvements. Moreover, the imminent implementation of the improvements to mobile number porting demonstrates that efficiencies can be achieved for both consumers and providers without the introduction of a common database.

We acknowledge there may be some potential small gains to be made via the implementation of a common numbering database in relation to both number portability and onward call routing, such as reduced latency and greater efficiency. However, whilst acknowledging such potential improvements, it must be recognised that most of these will naturally occur following IP migration as capacity becomes less of an issue. We also consider that such improvements are far outweighed by the costs that we expect to be several million pounds per provider to set up, plus ongoing costs, and other adverse consequences.

Our specific concerns about implementation are covered in a later section, but we have significant reservations about other aspects of the STIR alongside a common database. In particular, we are concerned about both the accuracy and security of such a database and the requirements that would be imposed on the providers involved, such as considerable IT development and the requirement for effective synchronisation between providers to ensure such a database remains accurate. Clearly, with any database of this kind, its usability and reliability can only be effective if the data held within it is both secure and accurate. In relation to security, there is little or no information provided on the management, and levels of access to the database, let alone how illegitimate access will be prevented (and the risks thereof to both consumers and providers).

Ofcom's idea of an industry led solution requires complete industry consensus, something that may prove impossible as such a solution may end up not being consistent with some CPs' requirements for adequate security. These concerns about accuracy and security are further reasons why Virgin Media is reticent to support the introduction of such a database.

At a time when the focus of industry is, rightly, on the migration to IP technology, the diversion of both financial and technical resources into this new activity would create an unnecessary risk to migration. Virgin Media strongly believes that providers should be allowed, without distraction, to focus on the important migration to IP technology and to realise the consequent benefits to industry and consumers.

Section 3: Number Management

The current approach to number management, and Ofcom's use of the Number Management System (NMS), is clearly limited by the current technology. There are obvious and known restrictions on how numbers can be allocated, particularly in relation to the volume of numbers allocated by Ofcom at any one time, and where responsibility for those allocated numbers remains, even when they have been ported to another provider. Ofcom believes that these deficiencies can be addressed with the introduction of a common numbering database.

However, as the Consultation points out, the technical restrictions that currently apply will fall away once the move to IP technology has been completed as the older telecoms equipment is replaced and the limited capacity of TDM exchanges is removed.

Although, in principle, Virgin Media would support improvements to the number management process that Ofcom sees as arising from the move to IP, there are a number of concerns and questions that Ofcom would need to consider and address when it looks to make changes to the number management process and move to number allocation on a more granular level. The latter is a positive step where CPs would look to gain a presence in different geographical codes but would not require the current minimum allocation of numbers. A further positive consequence post PTSN retirement is that the duty of care will be removed from a provider once a number is ported out and there is a clear way of identifying where responsibility for the number sits.

However, Ofcom would need to think about any impact the move to a more granular number allocation may have on CPs who would want to still request and hold larger number blocks in order to ensure that customers who require multiple numbers can be allocated these within the same number range. In addition to this, there are a number of other questions that would require further analysis such as what are the implications for the existing charging scheme when this change is implemented.

Section 4: Common Numbering Database

The main focus of this Consultation is on gauging CPs' opinions on the introduction of a common numbering database (in the context of such a database bringing improvements to certain aspects of CLI assurance, call routing and number management).

Virgin Media is always open to improvements in processes that will both enhance customer experience and increase trust within the industry. However, we do not feel that Ofcom has

adequately demonstrated that the existing processes mentioned within this consultation are sufficiently broken to require a numbering database. The key question should be how these processes can be improved for consumers in the least burdensome way.

We believe the benefits of a central database are likely to be insufficient to justify the significant ongoing investment and resource burden required for implementation and maintenance. Instead, improvements to CLI assurance, call routing and number management, should be (and are being) tackled through other means.

As we have set out above, we believe that some of the improvements envisaged by Ofcom will occur as a natural consequence of the migration to IP technology and, whilst that migration is ongoing, incremental enhancements to existing processes can be made.

Although constant improvement is something that we as a sector should strive for, we should also be wary of attempting to be seen to be "moving forward" for the sake of it when the benefits to both industry and consumers are not clear and can be achieved in other ways. Virgin Media believes that the introduction of a Common Numbering Database, especially one managed and funded by industry, is not something that would achieve sufficient benefits for industry and consumers in order to justify its establishment.

Consultation Question Responses

Please see below for our response to the specific questions in the Consultation.

Question 3.1: **Do you have further views about the implementation of STIR?**

Although, in principle, Virgin Media does not oppose the adoption of the STIR standard, the use of international refile makes it difficult to determine whether incoming traffic has actually originated from within the UK. Consequently, it is quite easy for scammers to inject legitimate UK CLIs from abroad – thus undermining the benefit of a central numbering database for nuisance call management. In Virgin Media's view, a review of Type 5 CLI would be of more benefit, including Ofcom investigating the use of licencing, whereby an end user would need to apply to Ofcom for permission to use a number, and preventing the refile of non-geographic numbers. We believe that this would lead to a much more significant reduction in nuisance calls than the implementation of STIR, as the largest issue currently impacting CLI authentication comes from those which originate internationally and therefore a licensed based approach to use of Type 5 CLIs would make end users more accountable. This also means that the adoption of the STIR standard can, in any event, only be considered once the cooperation of international carriers and regulators is secured.

Question 3.2: **Are there any other approaches we should consider for addressing CLI authentication?**

If end users of a Type 5 CLI are made more accountable by the regulator, we feel that the benefits would come quickly and at a much reduced cost for CPs.

Question 3.3: **Do you agree a common database would be required to support the implementation of STIR?**

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At the present time, Virgin Media believes that the focus needs to be on existing issues with CLI authentication, such as authenticating non-UK numbers. We note that, in event, STIR would not be effective without addressing this challenge.

Question 3.4: **What are your views on using blockchain technology as the basis for a common numbering database to support CLI authentication? What other solutions do you think should be considered and why?**

In order to answer this fully there would need to be more information provided on the potential solution. Blockchain is a nascent technology and is not known for high performance. Even if it was appropriate to implement a common database, we believe that blockchain must mature before it should be entrusted with the UK's numbering and routing system.

Question 3.5: **What are your views on timeframes?**

Virgin Media believes that it is premature to consider introducing a common database. Given the industry focus on migrating to IP technology, and other ongoing work (such as mobile switching reforms), we suggest that Ofcom revisits the matter in several years' time, once the effectiveness of the improvements that these initiatives will bring can be judged against a proper evidence base.

Question 4.1: **What are your views on the current implementation of number portability in the fixed and mobile sectors?**

Virgin Media believes that although there are potential areas for improvement in the current processes, they currently work well. The current processes governing mobile number porting are robust and have improved further following the introduction of the porting enhancements and fixed line portability will improve and become more streamlined as we complete the move to IP.

Question 4.2: **What are your views on sharing the functionality of a common numbering database for CLI authentication to also support improvements in UK porting processes?**

Virgin Media does not believe that such a database would improve the current porting process significantly and that many of the improvements suggested as a product of such a database can be achieved by other means. We also believe that a database could expose the industry to a number of risks that we do not believe have been sufficiently considered such as synchronisation, security and accuracy.

Question 4.3: **We are currently supporting a blockchain pilot. Do you have any views on using this technology for port transactions and a routing database? Are there other alternatives that should be considered?**

Whilst Virgin Media would be interested to see the results from Ofcom's pilot of this technology, especially as it may provide more clarity on the proposals, our focus remains the migration of the network to IP. Therefore, we would not be in a position to propose any definitive alternatives as we are focussing resource on the move to IP and assessing how that develops.

Question 4.4: **What are your views on implementation timeframes and the importance of a common database solution being available to support the migration of telephony services to IP?**

Virgin Media does not believe that a common database solution is of high importance to, or indeed necessary for, the migration to IP technology. This is demonstrated by the fact that this migration is already underway and the technology is already in use. We believe that the plans for the underlying technology migration that are currently in place are of paramount importance and therefore should be prioritised over the implementation of such a database.

Question 5.1: **What are your views on the potential for a common database solution to also provide shared functionality to support number management?**

Virgin Media believes that the improvements to number management can be achieved following the completion of the migration to IP and that a common numbering database is not required.

Question 5.2: **What do you see as the benefits or disbenefits of changes to number management post PSTN retirement?**

As mentioned in the main body of this response, the potential benefits regarding changes in number management include the simplification of the post porting duty of care and the eventual removal of technical restrictions that will allow number management to occur on a much granular level. However, there is further analysis needed on how this change would impact providers who still require larger number blocks and also around the future of the charging scheme.

Question 6.1: **Do you agree, in principle, with the need to develop and adopt a common numbering database? If not, why not?**

On the basis of the evidence presented to date, Virgin Media does not agree in principle with the need to develop and adopt a common numbering database. Industry needs to focus on the ongoing migration to IP technology and assess the benefits of that migration for the issues highlighted in the Consultation. Any potential benefits from a common numbering database are likely to be outweighed by the cost of implementation given that the former are diminishing over time with the migration to IP. We also note that Ofcom does not include any impact assessment regarding the database implementation and, as with other issues, this would need to be included in any future consideration of the matter.

Question 6.2: **If you do not agree with the need to develop and adopt a common numbering database, do you have any suggestions on how the issues we have set out in this consultation could be addressed?**

Virgin Media believes that the migration to IP technology itself would lead to natural improvements in many of the areas highlighted within the consultation. We believe that the continued migration towards IP technology will see improvements such as new call screening technology that will improve CLI authentication. We also believe that it will allow providers to have a more streamlined approach to number portability as they reduce the number of switches in operation. As Ofcom points out, technical restrictions that currently exist for number management will fall away as we migrate to IP technology, again seeing a natural improvement in processes.

These organic improvements, combined with ongoing incremental improvements that are being made across industry, mean that the development of a common numbering database is not necessary to address the issues highlighted within the consultation.

Question 6.3: **Do you agree that in the first instance industry should lead the implementation of a common numbering database, with Ofcom providing support to convene and coordinate key activities? If not, what are your views on how implementation should be taken forward?**

Virgin Media does not support the implementation of a common numbering database.