



# Future of telephone numbers – 2<sup>nd</sup> Consultation

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# 1 Executive summary

1.1 Telephone numbers remain very important to our customers and will continue to be so for the foreseeable future. But as we move from the PSTN towards IP the potential for how numbers are managed and the consumer benefits they deliver will change.

1.2 The National Telephone Numbering Plan (“Numbering Plan”) is an essential document that sets out the telephone numbers available for allocation and any restrictions on how they may be adopted or used. Therefore, it is right that Ofcom updates this to provide clarity and guidance across industry to minimise confusion for consumers, whilst delivering greater flexibility where it is beneficial.

1.3 Ofcom’s consultation sets out three areas where they are considering amendments:

- Whether the obligation to provide local dialling should be maintained
- Whether we should continue to have area codes correspond to particular locations
- Whether revenue sharing (directly or indirectly) with calling parties should be prohibited across all number ranges

1.4 BT supports Ofcom’s recommendations in these three areas, our response goes into further detail about why and how these proposals should be implemented. In short, Ofcom should:

- Remove the obligation to provide local dialling. This facility gives minimal value to consumers and removing it creates little risk of consumer harm. In contrast, forcing Communications Providers (CPs) to maintain it would result in technical difficulties and high cost of implementation on IP networks for very little benefit.
- Continue to maintain the geographic significance of area codes when allocating numbers. This will not only reduce confusion for consumers but also allow better management of number resources.
  - However, Ofcom should allow consumers to take advantage of the flexibility of the IP network to migrate their existing numbers to new areas when they move or if they choose to port to a new provider. This will allow a customer to keep a ‘number for life’ and reduces the disruption of changing numbers if moving ‘out of area’.
  - Although the current numbering plan allows for allocation out of area and doesn’t prohibit the migration of existing numbers out of area, BT feels that Ofcom could provide greater clarity when numbers should be allocated and migrated out of area.
- Explicitly state that revenue sharing with callers is unacceptable. Doing this will help prevent the exploitation of consumer bundles by unscrupulous organisations. This, in turn, will continue to protect the benefits consumers experience through their bundled call packages.

## 2 Introduction

- 2.1 BT welcomes this consultation from Ofcom given the existing rules around geographic numbering have historically been designed to fit the technical restrictions of the Public Switched Telephone Network (PSTN). The next few years will see the completion of the migration from the PSTN to IP networks and as we move to IP, many of these technical restrictions will disappear. This consultation, therefore, on how Geographic Numbering will work in the future is very timely.
- 2.2 The flexibility that IP allows can deliver greater consumer benefits if we design the geographic numbering regime with it in mind. We also need to make sure that the rules and guidance are clear to prevent abuses or mismanagement of numbering resources across industry, as well as avoiding consumer confusion regarding use of their numbers as this may change. It is therefore important that the National Telephone Numbering Plan (NTNP) is updated to take into account how numbers may be utilised as we can no longer rely on the technical restraints of the PSTN to control their usage. Failure to provide up to date, clear guidance could lead to different approaches across industry resulting in confusion for consumers and CPs alike.
- 2.3 As well as ensuring the guidance is fit for purpose in an IP world it is important that Ofcom also consider how to manage the transitional period where both PSTN and IP networks are running concurrently and interacting with each other. Some of the desired flexibility provided by IP networks will not be deliverable over the PSTN. It is important that Ofcom reflects that within their guidance by providing flexibility to CPs where required.
- 2.4 Ofcom's proposals appear logical and sensible and have the support of BT. It is important that the finer details are considered thoroughly to avoid any unintended consequences. BT has tried to set out below how Ofcom can best implement their proposed changes in order to minimise any problems.
- 2.5 Use of numbering will continue to evolve over the coming years as we see greater convergence between mobile and fixed services, and the introduction of machine to machine or the "internet of things" communications. Ofcom will need to monitor developments in this area and adjust numbering policies accordingly. Therefore, this consultation should not be seen as the conclusion of numbering changes required for the future, but more usefully as the beginning of a process that ensures numbering policies keep track of technological developments. BT therefore looks forwards to continuing to work with Ofcom beyond the scope of this consultation.

### 3 Removal of local dialling

*Question 3.1: Do you agree with our proposal to remove the obligation for telecoms providers to provide the local dialling facility? Please provide reasons for your response.*

- 3.1 As set out in our response to Ofcom's previous consultation on the Future of Numbering, BT no longer believes it should be mandatory to force CPs to provide local dialling. However, unless a nationwide number shortage requires it, it is not necessary to force CPs to remove the facility, therefore BT supports Ofcom's preferred option; Option 1 - Remove the obligation to provide local dialling.
- 3.2 Over time, as technologies have changed, it is clear the value of local dialling to consumers has decreased. Consumers often now do not need to dial numbers at all given that roughly 80% of calls originate from mobiles<sup>1</sup>, alongside the growing popularity of over the top services, clicking or copying numbers from online, or from home phones that now have offer the functionality of storing numbers.
- 3.3 Where consumers do dial numbers, more and more they will use the full number given the high volume of calls made from or to mobiles or over new IP services that may not have implemented local dialling. As such the use of local dialling is likely already a rare occurrence for the vast majority of consumers.
- 3.4 For the few consumers that do use it regularly, the added inconvenience of local dialling removal will be negligible as the most repeated and therefore easiest area code to remember will be the local one. For anyone who momentarily forgets, it will only take a few additional seconds to redial once the call has not connected. At BT, we will implement a recorded message informing consumers that they need to dial the area code if they do forget. We expect other Communications Providers will do similar.
- 3.5 Ofcom's own consumer research supports these assumptions<sup>2</sup>, and BT has not seen any evidence to the contrary. Ofcom has already removed local dialling in six areas<sup>3</sup> and has not seen or experienced any consumer harm from having done so. Additionally, BT has already removed local dialling on our IP Digital Voice product which now supports [📞] customers and has not received negative feedback regarding this from end users. Therefore all existing evidence points to minimal, if any consumer harm from the removal of local dialling.
- 3.6 Conversely, we would expect increased confusion if local dialling were to remain as numbers become more nomadic. As people move around but keep the same number, or as services converge such that geographic numbers may be used on mobile or converged devices, it becomes more likely that you could be making a 'local' call to someone nearby who has a different local area code. Having local dialling in place could add confusion if consumers assume they don't need to use the area code.
- 3.7 Removing the obligation to provide local dialling is likely to see CPs remove it as they migrate to IP networks given the increased technical difficulty in maintaining PSTN

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<sup>1</sup> [Telecommunications Market Data Update Q4 2020 - Ofcom](#)

<sup>2</sup> [The future of telephone numbering: a qualitative research study - Ofcom](#)

<sup>3</sup> Bournemouth, Aberdeen, Brighton, Bradford, Middlesbrough, Milton Keynes

geographic area integrity. As Ofcom is aware, various area codes are low on supply of numbers. One effective way of alleviating this is to remove local dialling. We expect the move to IP will allow numbers to be allocated more efficiently, helping to resolve much of this problem. However, if it does persist, then the fact that local dialling will have already been largely removed will make it simpler for Ofcom to completely remove it where necessary.

- 3.8 In order to keep local dialling on IP networks, CPs will have to deal with technical challenges that will add cost and complexity to delivering the new IP networks. Whilst the PSTN is split into physical geographic areas that represent the physical reach of a telephone exchange across its catchment area, IP networks do not have the same physical constraints. The creation of mechanisms to artificially replicate area catchments and apply geographic numbering principles that closely align with the PSTN, in an IP context, in order to maintain local area dialling accuracy and consistency, are highly complex and costly to achieve.
- 3.9 This would require a tightly defined industry definition of area coded geography based on post codes or map references. This would have to be maintained continuously to prevent issues arising. Even if this was possible, CPs would then have to invest in technical solutions to utilise this mapping to deliver the local dialling facility.
- 3.10 For all these reasons BT believes that allowing flexibility for CPs to remove local dialling clearly outweighs any potential consumer harm. We are aware that other CPs may have a different outlook to BT regarding the continued value of local area dialling, and if so, we believe they should have the option to adopt their own approaches. Consumers will then at least have the choice to move to a CP that continues to provide the service, again reducing the potential for consumer harm.
- 3.11 Accordingly, we believe Option 3, where Ofcom would force the closure of local dialling in all areas at once, is not the best approach. Doing so would be technically challenging as it would require the removal of local dialling whilst the PSTN is still in use. It is not clear how this would be done technically, and those resources could be much better spent elsewhere, particularly as we continue to work on migrating over to IP. It would be counterproductive to add delays to the IP migration process in order to switch off a service on the PSTN that wouldn't be in place on IP.
- 3.12 Finally, a UK-wide switch off would require a large national campaign to inform everybody of the changes. There would be significant challenges in ensuring everybody had a full understanding of the changes.
- 3.13 Local area dialling is impractical in an IP world. The logical alternative is to allow CPs to communicate the changes to their own customers when they migrate on to IP as part of the order journey. Consumers are more likely to then engage with the removal of local dialling as part of a wider package of changes to their service. This will also have the added benefit of avoiding contacting consumers multiple times with associated additional costs.
- 3.14 BT has carried out such communications with consumers as it has migrated them over to Digital Voice IP products and we have not encountered any issues, confusion or complaints from consumers regarding them.
- 3.15 Therefore, the only justification for a wholesale switch off of local dialling whilst the

PSTN is still in use, would be to prevent a full-blown national number shortage. Given Ofcom has not had to remove local dialling in any local area since 2014, for this or any other reason, we do not expect this to occur again any time before 2025, or indeed shortly thereafter.

- 3.16 Furthermore, Ofcom launched a geographic number charging pilot in 2013 that continues to this day, focused on areas that were expected to exhaust their number supply before 2025. As stated above none of these areas have yet exhausted their supplies. In many cases the number scarcity issues have receded as many CPs have returned unused number blocks. BT believes Ofcom should consider pausing its 'pilot' as it is no longer necessary to meet the aims it was designed to achieve. This 'pilot' places significant costs on CPs, even if they are efficient in utilising numbers, as the vast majority of the costs cannot be avoided as we explained in 2016<sup>4</sup>.
- 3.17 Ofcom could use such a pause to monitor if behaviours change and complete their assessment of whether the pilot is responsible for the improved behaviour and utilisation rates. In any case, Ofcom should remove those areas that are now no longer at risk of exhaustion from the number charging process.

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<sup>4</sup> [BT.pdf \(ofcom.org.uk\)](#)

## 4 Maintaining local area codes

*Question 3.2: Do you agree with our proposal to retain the provisions in the Numbering Plan which (i) allocate location significance to area codes and (ii) allow phone users to request out-of-area use of geographic numbers? Please provide reasons for your response.*

- 4.1 BT agrees with Ofcom on the principle that numbers should be allocated in relation to the area in which the consumer resides. This is unless the consumer specifically requests an out of area number, which we consider should be maintained. This is in line with the regulations within the existing Numbering Plan although Ofcom could provide additional specific guidance and clarity as to when out of area numbers may be used so that the exception does not become the rule.
- 4.2 Although the linkages between area codes and locations may not be seen as essential for many customers<sup>5</sup> there are consumers and businesses that continue to place some value on them. They are therefore worth maintaining for the foreseeable future where possible.
- 4.3 Additionally, preserving a linkage between area code and geographic location will help Ofcom with the management of number scarcity. Removing all restrictions and creating a 'free for all' would cause CPs to first utilise the numbers they have stock of regardless of location. This could also result in numbers in 'popular' areas being requested or allocated first, causing number shortages.
- 4.4 Until the completion of the migration to IP in a few years, there will still be consumers on the PSTN having access to local dialling. A rapid degradation of geographic significance of numbers through a new approach to allocation could cause some levels of confusion beyond which is likely to occur due to a natural, slower degradation led primarily by consumers moving location whilst maintaining existing numbers.
- 4.5 With this in mind, Ofcom needs to be clear on *how* CPs should determine what constitutes a geographic area for the purpose of number allocation. Currently, Ofcom's National Telephone Numbering Plan lists each range and the area(s) it applies to. However, it will not always be clear where the boundaries for an area are. With the existing PSTN these areas are naturally defined through the exchange area locations, but with the move to IP this will no longer be the case. Without additional guidance there is a high likelihood that CPs will not apply a consistent mapping for allocation either internally or in line with other CPs. In some cases, CPs may use the lack of clarity as an excuse to provide the numbers they prefer rather than the ones the consumer should receive.
- 4.6 BT therefore encourages Ofcom to produce a clearly defined mapping of which consumers are covered by each area listed within its numbering plan. The most logical way of doing this would be through listing postcodes against each area. CPs can then utilise the consumer's address to allocate the relevant area code. BT is mapping postcode districts (essentially the first 'half' of the post code) to the national numbering group (NNG) that has the best correlation, based on analysis of PSTN number distribution. This provides a high degree of alignment with existing PSTN exchange area mapping. Therefore, we are planning on using this approach internally

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<sup>5</sup> [The future of telephone numbering: a qualitative research study - Ofcom](#)



in the absence of any further guidance from Ofcom. We would be happy to share this with Ofcom, when complete, to help create a consistent and clear mapping that the whole of industry can utilise. Once this mapping is created it would require little maintenance with only occasional adjustments as new postcode districts are created. This would be a rare occurrence.

- 4.7 Ofcom should make it clear within the NTNP that CPs should offer a consumer an 'in area' number as default. Out of area numbers should only be allocated when the consumer makes such a request. This will avoid the risk of CPs automatically offering out of area numbers against a consumer's wishes, leading to consumer harm and a potential depletion of numbering resources in specific areas.
- 4.8 Although BT supports the principle that a consumer should be able to request an out of area number, we do not believe they should have a right to such a number and the CP should have the right to refuse such a request.
- 4.9 This could be necessary for the following reasons:
- To allow efficient management of numbering resources by preventing the exhaustion of numbers in a 'popular' area or having to obtain new numbers blocks for an area;
  - To prevent consumers seeking out of area numbers whilst they are still on the PSTN and the technical challenges this would present; or
  - To restrict businesses or individuals that may want to wilfully misuse use out of area numbers for nefarious purposes.
- 4.10 The migration to IP and the added flexibility it allows with numbering can create greater consumer benefits. Primarily this will be through allowing consumers to maintain a 'Number for Life'. Once the restrictions of the PSTN are removed, consumers will be able to migrate their existing number to their new address if they move location. This will save time for them and their contacts, making the home-moving process simpler.
- 4.11 Again, the desire to retain a number should be a consumer driven choice, although BT expects that the vast majority of home movers or those porting numbers would utilise this option if presented. Ofcom's NTNP doesn't currently reference this situation; it only implies that migrating a number out of area is acceptable. Ofcom could explicitly state this to draw a distinction between allocating numbers to new consumers and consumers who are moving and keeping their existing numbers, as the default options for these two scenarios are likely to be different.
- 4.12 The approach outlined above will gradually reduce geographic area significance over time as people move out of area and take their old number with them. However this is likely to happen very slowly as the majority of movers do not travel far<sup>6</sup>, and if they do they may well choose to have a new number relating to their new area.
- 4.13 There is going to be a period of transition from PSTN to IP, during which a number cannot be imported from out of area if it remains on the PSTN. So once again, in the

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<sup>6</sup> [How far will British homeowners move house? - Addicted to Property](#)

short term at least, operators must have the flexibility in place to refuse importing an out of area number where network technology dictates that it is not possible.

- 4.14 BT's policy is for any new consumers or anyone moving their service within BT, to migrate to one of our Digital Voice IP products. By implication, we will always allow them to transfer or port their existing number – out of area or otherwise – within or to BT, to an IP Voice service, if they have one. However, if one of our consumers who has an out of area number wishes to switch to an alternative CP who would move them back to a PSTN service, we would be unable to port such a number. This is likely to be a relatively rare occurrence but is theoretically possible until the completion of the migration to IP. Therefore, during this period, Ofcom needs to ensure they do not expect such porting to take place, just as they do not currently expect CPs to deliver out of area porting for consumers.

## 5 Prohibiting revenue sharing with callers

*Question 4.1: Do you agree with our proposal to modify the Numbering Plan to prohibit direct and indirect revenue sharing with the calling party for calls to all geographic and non-geographic numbers? Please provide reasons for your response.*

- 5.1 BT agrees with Ofcom's proposals. There is no need or justification for revenue sharing with calling parties on any number range, and the only reason it exists is to exploit arbitrage opportunities which harms both CPs and consumers.
- 5.2 These purported 'services' that share revenue with calling parties exist purely to collect service charges and termination rates by encouraging consumers to utilise their bundled call allowances in return for cash or vouchers. Such services do not provide any consumer benefit other than the payment they receive, despite what they may claim. For instance, some of these services may offer consumers radio broadcasts over the phone. There is clearly no genuine demand for such a service given that it can be obtained via the radio, TV or internet. Furthermore, we also suspect such services may not be in line with radio broadcasting licensing regulations and therefore shouldn't be permitted.
- 5.3 The existence of these services has several negative effects on industry and consumers.
- 5.4 Firstly, they generate unnecessary traffic that otherwise would not occur, and therefore increase network congestion which can impact the quality of service of the network for all customers.
- 5.5 The outpayments to these 'service providers' can be expensive. BT estimates that such artificial inflation of traffic (AIT) is responsible for millions of pounds of outpayments over the past five years. It is hard to estimate an exact figure given that it can be difficult to detect such practices in the first place. Where we do identify AIT the refusal to make outpayments leads to expensive legal battles over contract terms as we cannot rely on any existing Ofcom guidance on acceptable use of these number ranges. Clear guidance on this matter would assist greatly in these circumstances.
- 5.6 This has a knock-on effect for all customers and even the smallest arbitrage opportunity needs to be guarded against. This leads to CPs being very cautious about which number ranges they include within their call bundle allowances. BT has historically included 0845 and 0870 within some of its call bundles and found that these number ranges are therefore the most targeted for this kind of abuse. This experience has meant we have been unable to consider incorporating any further ranges within bundles.
- 5.7 The 'service providers' avoid any risk that CPs may not pay by loading all the risk onto the calling parties. They refuse to pay out until and unless they have received their service charge payments or termination rates. This can lead to consumers ending up wasting their time if a CP refuses to make the anticipated outpayments to the service provider. Furthermore, CPs generally employ fair usage policies and if consumers are found to have breached them or they fail to fully understand the limits on their

bundles they may face charges and end up out of pocket themselves.

- 5.8 However, these fair usage policies are not an efficient solution for dealing with the problem. As stated above, they can harm those consumers who are trying to take advantage of these services and who may end up out of pocket. They also harm other consumers who find their call bundles will have restrictions and limits on how they are used (e.g. maximum call lengths) to prevent such abuse and this can impact on their consumer experience. Fair usage policies are also difficult to administer and monitor fairly, imposing costs on CPs. Finally, they cannot be designed in a way to avoid all misuse, it is usually very easy for these services to work their way around any restrictions on usage imposed by CPs.
- 5.9 Ofcom have already explicitly banned this practice on the 03 range for these reasons, despite the fact the termination rate is relatively low and there is no service charge. The same logic should apply to all ranges. However, such 'service providers' appear to assume that because Ofcom hasn't explicitly banned such practices across all ranges, they must be allowable on the other numbering ranges.
- 5.10 Ofcom therefore need to impose a blanket ban on this practice across all ranges. Banning one range at a time or focusing on ranges where this is an existing demonstratable issue will simply result in a game of 'whack-a-mole' where these services migrate to other number ranges.
- 5.11 BT does not consider Ofcom's proposed banning of revenue sharing with calling parties would capture instances where callers are calling premium range numbers (i.e. 09 numbers) to enter competitions where they may win a prize. Such prizes would be administered in relation to the rules of the specific competition, and therefore would not constitute revenue sharing with calling parties.