
Guidance on CLI Facilities

A statement on revising the guidance on the provision of Calling Line Identification facilities

Including a modification to the National Telephone Numbering Plan

STATEMENT:

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About this document

Calling Line Identification (CLI) data consists of a number that identifies the caller and a privacy marking, which indicates whether the number can be shared with the recipient of the call. It can give the recipient of a call information about the party making that call. CLI Data can also be used for other functions, such as call tracing to identify the sources of nuisance calls or as a reference to help identify the location of a caller in emergency situations. For this to work effectively, the CLI Data must be accurate.

In Autumn 2017, we introduced a new General Condition (GC) C6 which requires Communications Providers (CPs) to provide CLI facilities, and ensure that the CLI Data provided with a call includes a valid, dialable telephone number which uniquely identifies the caller. We also published a consultation on changes to the CLI guidance to reflect the new requirements in the GC.

Following responses to this consultation, we have updated the guidance on CLI facilities. The updated guidance document clarifies the definition of a valid and dialable CLI for CPs in different parts of a telephone call, based on what is technically possible today. Originating providers are responsible for ensuring that accurate CLI Data is provided with a call. Transit and terminating providers are expected to check that the number provided with a call is from a valid number range. For calls that originate on a network outside the scope of these requirements, the CP at the first point of ingress is responsible for ensuring that the call is populated with valid CLI Data, replacing the information with a number that has been allocated to them for this purpose where the original number is not valid or is missing. The updated guidance also clarifies the options available to CPs to prevent calls with invalid or non-dialable CLI from being connected to the end user.

To support these recommendations, we have made numbers in the 08979 range available to allocate to CPs to use as inserted Network Numbers where no number is present or they suspect that the incoming CLI is not reliable.

The revised guidance will apply from 1 October 2018, the same date that the new General Conditions come into effect.

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1. Summary

- 1.1 Calling Line Identification (CLI) facilities provide information to the recipient of a telephone call about the party making the call. CLI data consists of a number that identifies the caller and a privacy marking, indicating whether that number can be shared with the recipient of the call. The presentation of CLI data enables the recipient of a call to make informed decisions about incoming calls, but this also relies on the CLI data being accurate.
- 1.2 In September 2017, Ofcom published a consultation on revisions to the CLI guidance, setting out how communications providers (CPs) should handle CLI Data to ensure that only valid, dialable CLI which uniquely identifies the caller is presented to the recipient of the call. This followed changes to our General Conditions (GCs), introducing new requirements for CLI Facilities, which are due to come into force on 1 October 2018.
- 1.3 The guidance is necessary as the carriage of CLI Data often relies on cooperation between two or more network operators. To ensure that the CLI Data is conveyed consistently between the networks, there needs to be a common understanding between CPs about the format of the information and how this information is exchanged between networks.
- 1.4 Following responses from 16 stakeholders, we have updated the CLI guidance. The updated guidance clarifies the meaning of valid and dialable CLI for originating, transit and terminating providers, in terms of technical capabilities that are available today. The guidance sets out:
- The responsibility of the originating provider to ensure that accurate CLI Data is provided with a call.
 - The different requirements for Network Numbers and Presentation Numbers.
 - The tests that transit and/or terminating providers should carry out to check if the number is from a valid number range.
 - The responsibility of the CP at the first point of ingress, for calls that originate on a network outside the scope of these requirements. Where the CP suspects that the CLI Data is not valid or where there is no CLI Data, they should replace the information with a number that has been allocated to them for this purpose.
 - The options available to CPs to prevent calls with invalid or non-dialable CLI from being connected to the end user.
- 1.5 We have made numbers in the 08979 range available to allocate to CPs to use as inserted Network Numbers where no number is present or where they suspect that the incoming CLI is not reliable. These numbers should not be displayed to the recipient of the call. However, rather than requiring CPs to provide a non-chargeable explanatory announcement on any calls to this number, as we had proposed in the consultation, we have decided to publish the list of allocated numbers and ask CPs to help their customers with any enquiries they have about calls displaying a CLI with an 08979 number.

Changes to the Guidance on CLI Facilities

- 1.6 Alongside this document, we are also publishing a consultation which includes an amendment to GC C6 to make it clear that calls to the emergency services are exempt from these rules and should never be blocked.
- 1.7 The new GCs, including GC C6 will come into force on 1 October 2018, at which point the revised guidance on CLI facilities will also become applicable. However, when considering whether to take enforcement action against GC C6, where a CP has not been able to make the relevant changes by the implementation date, where appropriate, we will take into account the CP's plans for making these changes. These plans should include a clear timeline for implementation.

2. Background, legal context and scope

- 2.1 In September 2017 we published a consultation setting out our plans to update the guidance on Calling Line Identity (CLI) facilities to reflect the changes made to the requirements for CLI facilities in GC C6.¹ CLI provides information to the recipient of a call about the party making that call. As the CLI Data can identify an end user, callers also have the right to withhold their CLI to maintain their privacy.
- 2.2 CLI Data consists of the caller's line identity along with a privacy marking, which indicates whether the number can be shared with the recipient of the call. The accuracy of CLI Data needs to be protected throughout the transmission of the call, from the origination, during the transmission and through to its termination, so that accurate CLI Data is presented. The CLI Data also needs to be handled with integrity throughout the call so that the privacy choices of end users are respected.

Legal context

- 2.3 The revised General Condition C6², which will come into force on 1 October 2018, requires CPs to provide Calling Line Identification Facilities, subject to technical feasibility and economic viability. The revised GC C6 imposes the following requirements on CPs:

C6.2 Regulated Providers must provide Calling Line Identification Facilities, and enable them by default, unless they can demonstrate that it is not technically feasible or economically viable to do so.

C6.3 Regulated Providers must inform Subscribers if Calling Line Identification Facilities are not available on the service they are providing to those Subscribers.

C6.4 When providing Calling Line Identification Facilities, Regulated Providers must:

(a) ensure, so far as technically feasible, that any CLI Data provided with and/or associated with a call includes a valid, dialable Telephone Number which uniquely identifies the caller; and

(b) respect the privacy choices of End-Users.

C6.5 Regulated Providers must not charge Subscribers any additional or separate fee for access to or use of standard Calling Line Identification Facilities.

C6.6³ Where technically feasible, Regulated Providers must:

(a) take all reasonable steps to identify calls in relation to which invalid or non-dialable CLI Data is provided; and

¹ <https://www.ofcom.org.uk/consultations-and-statements/category-2/guidelines-for-cli-facilities>

² https://www.ofcom.org.uk/data/assets/pdf_file/0021/112692/Consolidated-General-Conditions.pdf

³ Note that we are currently consulting on amending GC C6: <https://www.ofcom.org.uk/consultations-and-statements/category-3/consultation-changes-general-conditions-of-entitlement>

(b) prevent those calls from being connected to the called party, where such calls are identified.

- 2.4 In providing CLI facilities, CPs must also comply with the Privacy and Electronic Communications (EC Directive) Regulations 2003 (PECR)⁴, which set out a fundamental series of privacy rights for end users making and receiving calls, in particular, the right for any person to withhold their CLI to maintain their privacy. This applies to both Calling Line Identification, which presents data about the caller to the recipient of the call and to Connected Line Identification, which is data about the recipient of the call that is presented to the caller. In 2016, PECR was amended to require callers making or instigating direct marketing calls or making calls using automated calling systems to not withhold their CLIs.⁵
- 2.5 The guidance on CLI facilities sets out our recommendations on how CPs should meet their responsibilities around the provision of CLI facilities. The guidance is not legally binding, but it sets out our expectations and interpretation of GC G6, which is enforceable. We may also take the guidance into account when exercising our powers to take enforcement action where we believe there has been persistent misuse of an Electronic Communications Network or Electronic Communications Service.⁶

Consultation on changes to the guidance on CLI facilities

- 2.6 In our consultation on the guidance on CLI facilities, we proposed that CPs should only present CLIs to end users where they consider the CLI Data and associated markings to be reliable. We also proposed to clarify what would be required to meet the requirement that any CLI Data provided includes a valid, dialable number which uniquely identifies the caller.
- 2.7 We explained that for calls involving CPs that are outside the scope of the guidance, e.g. calls to or from CPs not in the UK, CPs currently follow an inconsistent approach to the provision of reliable CLI Data to the recipient of the call. Therefore, we proposed to make available a new number range to allocate to CPs which could be inserted as a Network Number in situations where a CP receives a call that originated on a network outside the scope of the GC and has absent or unreliable CLI. We proposed to set aside the 08979 number range for this purpose. This would mean that other CPs would recognise this number as one that has been inserted to replace an unreliable or absent Network Number and that it would help with call tracing activities.
- 2.8 We also explained that as the new GCs will replace the current GCs from 1 October 2018, we proposed that the new guidance on CLI facilities would also come into force from this date.

⁴ <http://www.legislation.gov.uk/uksi/2003/2426/contents/made>, as amended. In particular, Regulations 10 – 13 set out the rights of users to withhold their CLI, and Regulations 19 and 21 prevent callers making marketing calls from withholding their CLI.

⁵ http://www.legislation.gov.uk/uksi/2016/524/pdfs/uksi_20160524_en.pdf

⁶ <https://www.ofcom.org.uk/consultations-and-statements/category-1/review-of-how-we-use-persistent-misuse-powers>

Scope

- 2.9 The revised guidance on CLI facilities will apply to all CPs who fall under the scope of the requirements of GC C6 and/or of PECR. Therefore, it will apply to all providers of Publicly Available Telephone Services and Public Electronic Communications Networks over which Publicly Available Telephone Services are provided.
- 2.10 CPs are required to comply with the GC for *Calling* Line Identification only. However, the privacy requirements in PECR also relate to the Connected Line. There may be situations where the recipient of a call may not wish to reveal information about their telephone number to the caller. Therefore, we would also expect CPs to follow the principles set out in the revised guidance for Connected Line (COL) information, where possible. However, unlike for CLI, for COL this is not a mandatory requirement under our GCs.
- 2.11 These requirements apply to all calls except direct marketing calls where, as already noted above, Government has amended PECR to prevent callers making direct marketing calls from withholding their CLI.
- 2.12 We are also consulting on plans to exclude calls to the emergency services from the scope of the requirement in GC C6.6 to prevent calls with invalid or non-dialable CLI from reaching the end-user, as these must be connected under GC A3, regardless of the validity of the CLI Data provided with the call.⁷ The consultation on this change includes a proposal for the inclusion of an additional short section to the updated CLI guidance, so that the guidance reflects this change to the condition. It also contains a proposal to add further guidance for CPs who are blocking or stopping calls as a result of GC 6.6.

⁷ <https://www.ofcom.org.uk/consultations-and-statements/category-3/consultation-changes-general-conditions-of-entitlement>

3. Summary of stakeholder responses

- 3.1 We received 16 responses to the consultation, from BT, Colt, the Consumer Panel, First Orion, Mr Michael F Rollinson, Microsoft, Nexbridge, Simwood, Telecom2, Truecall, UKCTA, Verizon, Vodafone and three respondents who asked for their responses to remain confidential [X].
- 3.2 Overall, respondents (including the Consumer Panel, Colt, UKCTA and two confidential respondents [X]) agreed with the aim to improve the quality of CLI Data. However, several stakeholders, such as Vodafone, Colt, Verizon, UKCTA and one confidential respondent [X], thought that some of the proposed changes were too onerous and we should carry out a full cost benefit analysis to demonstrate that they were proportionate.
- 3.3 Some stakeholders expressed concerns about the introduction of new requirements that they might not currently be able to meet, such as those relating to the authentication of CLI Data. Vodafone suggested that the guidance on CLI facilities should distinguish between the requirements that are to be implemented immediately and those that have a future implementation date. Stakeholders thought that it was too early to comment on the implementation of CLI authentication, as the STIR⁸ standard has not been ratified and it is still unclear how it will be implemented in the UK. However, BT and Vodafone also noted that the proposals did not take a sufficiently forward-looking view, particularly given the likelihood of a future where telephone numbers become less relevant and the information displayed to the recipient of the call may be based on other technologies and formats. Colt and UKCTA suggested that the guidance should be reviewed and updated on a more frequent basis.

Technical feasibility and economic viability

- 3.4 A number of the requirements in the revised GC C6 are subject to “technical feasibility” and/or “economic viability”. Some respondents were uncertain about how these terms would be interpreted and requested further guidance. A confidential respondent [X] noted that the requirement to block calls is subject to technical feasibility but not economic feasibility. They thought this potentially creates a very high expectation as most technical issues can be solved with sufficient investment. Colt noted that some of the proposals were extensive and would likely lead to disproportionate impacts, particularly for the business-to-business (B2B) market. They thought that a one-size-fits-all approach was incommensurate, as the needs of the B2B market are different to those of residential end-users.
- 3.5 BT proposed the following definitions of “technically feasible” and “economically viable” which it suggested we should include in the revised guidance:

⁸ There is an IETF work group developing a standard for CLI authentication called Secure Telephone Identity Revisited (STIR) <https://datatracker.ietf.org/wg/stir/about/>

- **Technically Feasible:** An action or development utilising design and build methods and materials, which are approved, codified, recognized, fall under standard or acceptable levels of practice or otherwise are determined to be generally acceptable by the industry and Ofcom and for which the action has an acceptable minimum lifespan of the technology deployed.
- **Economically Viable:** An action or development that is already technically feasible, or which can be implemented by additional technical development at a cost that does not represent an unfair burden to the party bearing that cost and which has an acceptable minimum period of sustainability.

- 3.6 We note that the guidance on CLI facilities is not legally binding, but sets out guidance for CPs on how they should approach the handling of CLI Data and Ofcom’s interpretation of the relevant parts of GC C6. Where appropriate we set out different approaches that CPs could follow to demonstrate compliance with GC C6. CPs use a range of different network technologies to provide voice services and some legacy platforms are not able to support technical upgrades to deliver the technical functionality we proposed in the guidance document. Each CP is best placed to consider what is economically viable and technically feasible on its network, based on the technology it uses, and to provide evidence for that assessment if requested. The inclusion of “technical feasibility” and “economic viability” in the General Conditions provides CPs with a degree of flexibility to determine the most appropriate solution to meeting these requirements for their network.
- 3.7 In our consultation on revising the General Conditions, we said that the requirements in condition C6 are objectively justifiable as accurate provision of CLI Data to call recipients will enable customers to make more informed decisions in choosing when to accept or reject calls.⁹ The improvements in the accurate provision of CLI Data will also help to facilitate the work we undertake to tackle the harm caused by nuisance or unwanted calls.
- 3.8 As the guidance document does not mandate a particular solution to meet the requirements of the GC, each CP is able to choose the solution that best fits its network. For example, the GC requires CPs to prevent calls that have invalid or non-dialable CLI from being connected to the called party, but it does not mandate call blocking. As an alternative to blocking, a CP could identify interconnect partners that appear to carry this type of traffic and work with them to improve the quality of the CLI Data. This would achieve the same aim to prevent calls with invalid or non-dialable numbers reaching the called party, without the need for a network based technical solution.
- 3.9 Some respondents noted that although the proposals will target some techniques that fraudulent callers use today it will not eliminate all scam and nuisance calls. First Orion suggested that Ofcom should consider the issue more holistically, to think about a complete solution which focusses on the recipient of the calls.

⁹ https://www.ofcom.org.uk/_data/assets/pdf_file/0032/95873/Review-of-the-General-Conditions-of-Entitlement-Consultation-on-the-general-conditions-relating-to-consumer-protection.pdf

- 3.10 The revisions to the guidance on CLI facilities are part of a wider programme of work to reduce the volume of nuisance calls. Since 2014, we have worked with the Information Commissioner's Office (ICO) to address the harm caused by these types of calls. In addition to working with industry to improve the quality of CLI Data that is presented to call recipients, along with the ICO, we have taken enforcement action against parties making unsolicited electronic direct marketing calls and shared intelligence about parties making nuisance calls.¹⁰

CLI authentication

- 3.11 In the consultation we asked for views on the use of CLI authentication and the likely timeframe for its implementation. Nexbridge, Simwood, the Consumer Panel and two confidential respondents [redacted] supported the principles of introducing CLI authentication. However, BT, Telecom2 and Simwood also noted that it was too early to comment on the implementation of the Internet Engineering Task Force standard for authentication, as the standard and the UK implementation of it has not been ratified. Some respondents gave estimates of when CLI authentication would occur, which ranged between early to mid 2020s. Vodafone and one confidential respondent [redacted] noted that implementation is also closely related to the migration of voice services to an all-IP platform and the implementation of a central database. A confidential respondent [redacted] urged that any standard be based on STIR and does not result in a UK implementation that is incompatible with international standards, as the ability to use readymade solutions will reduce costs and implementation time frames.
- 3.12 Colt and UKCTA asked Ofcom to keep a watching brief on developments in standardisation. Microsoft suggested that CLI authentication must be designed properly to avoid technical discrimination in the network and the exclusion of different types of calling technologies. First Orion noted there is not currently a database that provides information about the contractual owner of a CLI and asked, once there is such a database, who would own this.
- 3.13 Some respondents noted that CLI authentication will not solve the problem of nuisance calls. First Orion explained that even in the US, operators expect consumers to continue to receive calls which do not have authenticated CLI, some of which are legitimate calls and some are not. They suggested that STIR would be a useful source of data to indicate the intent of the calling party, but additional information would be needed to protect consumers. A confidential respondent [redacted] noted that in the UK, STIR will only be effective for calls originating in the UK as it is unlikely that all countries would adopt the same verification standards. Additionally, they warned that calls from outside the UK may be blocked or marked incorrectly as handsets cannot currently display information about authentication. Another confidential respondent [redacted] also noted that it would be more difficult to upgrade legacy networks to provide authentication.

¹⁰ <https://www.ofcom.org.uk/phones-telecoms-and-internet/information-for-industry/policy/tackling-nuisance-calls-messages>

- 3.14 At the time of the consultation, we thought that CLI authentication would be available relatively soon, and therefore the guidance document was drafted to accommodate this. However, based on the responses to the consultation and recent developments, we do not expect CLI authentication to be ready in the UK for at least another three years. We also expect that CLI authentication will need to be supported by the migration of the majority of voice services to an all-IP platform and the creation of some form of centralised database, or other authoritative source of number management, allocation and “ownership”. Therefore, we plan to separate out these requirements. The revised guidance focusses on what we expect CPs to be able to do today. We will consult on revising the guidance on CLI facilities again in due course when it is clearer how CLI authentication will be implemented in the UK.
- 3.15 We acknowledge that requiring CPs to provide accurate CLI Data alone will not eliminate nuisance calls completely. As we explain above, Ofcom and the ICO continue to take enforcement action against parties who make nuisance calls. However, the ability to provide more accurate CLI Data and assurance that the caller is who they claim to be will help consumers to make more informed decisions about the nature of the incoming call.

Principles for the provision and handling of CLI Data

A valid, dialable number which uniquely identifies the caller

- 3.16 The revised GC C6.4 requires CPs to ensure, so far as technically feasible, that any CLI Data provided with and/or associated with a call includes a valid, dialable telephone number which uniquely identifies the caller. In the consultation on the guidance on CLI facilities we proposed that the originating CP should be responsible for ensuring that the correct CLI Data is generated at call origination. We proposed that the CLI presented should be a number which fulfils the technical requirements as specified in ND1016,¹¹ and the following requirements:
- It must be a valid number - This is a number that complies with the ITU-T numbering plan E.164. It must also be a number that has been allocated for use in the UK in the National Telephone Numbering Plan (the ‘Numbering Plan’);
 - It must be a dialable number, i.e. a number that is in service. This number must be one that identifies the caller (which can be an individual or an organisation) and can be used to make a return or subsequent call;
 - It must uniquely identify the caller, i.e. be a number that the user has been given authority to use (either because it is a number that has been allocated to them or because the user has been given permission from a third party who has been allocated that number); and

¹¹ NICC is the UK telecoms industry standards forum that develops interoperability standards for UK communications networks. NICC standard ND 1016 v 3.2.1 sets out requirements on CPs in relation to Customer Line Identification display services and other related services: <http://www.niccstandards.org.uk/files/current/ND1016V3.1.1.pdf>

- It must not be a number that results in charges in excess of the cost of calling a standard geographic number or a mobile number.
- 3.17 Although we proposed that the originating provider would be responsible for ensuring the correct CLI Data is generated at call origination, we also suggested that the transit CP should ensure that the CLI Data they pass with a call contains valid CLI and the terminating CP should present only valid CLI to the end-user. We noted that it was not currently technically feasible for CPs to verify that each and every individual CLI was valid and dialable on a call by call basis, but we would expect CPs to at least run basic checks, such as verifying the CLI has the correct number of digits and is in a suitable format.
- 3.18 The number provided to the recipient of the call also needs to uniquely identify the caller. We proposed that CPs, particularly the originating CP, should take reasonable steps to check that the caller has been given permission to use that CLI. We set out the expectation that CPs would adopt a technical solution to demonstrate that the CLI is a valid, dialable number which the caller has permission to use when a suitable technical solution for authentication becomes available. In the meantime, we noted that CPs should still consider if the number presented was sufficiently authentic, but that the steps a transit or terminating CP would take could depend on a number of factors associated with the call. We also noted that CPs could seek contractual agreements with their interconnect partners to guarantee that only valid, dialable CLI that uniquely identifies the caller is provided with any calls that are passed to their network.

Definition of a valid and dialable CLI which uniquely identifies the caller

- 3.19 BT and a confidential respondent [X] asked for a clearer explanation of what a ‘valid CLI’ meant. BT proposed a definition of “valid”, which included suggestions for a number of characteristics for invalid numbers, for example, numbers that do not comply with the ITU-T E.164 numbering plan, numbers that do not meet the minimum digit length for the country of origin, numbers in protected or unallocated ranges of the Numbering Plan, premium rate numbers, cases where the number does not match the technology used to originate the call and any numbers that are not a geographic, 03 or mobile number. They also noted that the majority of internationally originated calls would include numbers that are outside Ofcom’s jurisdiction, but this should not invalidate the numbers.
- 3.20 A confidential respondent [X] had concerns that our proposals would mean CLIs not in an allocated range would not be considered valid numbers. They thought that this may result in calls to utilised numbers which were previously but not currently allocated by Ofcom being disconnected in error. They asked that Ofcom gather data on answered call volumes for all number ranges to assess the scale of this issue. Nexbridge suggested that the calling party should only be permitted to use a CLI that has been provided by the originating provider or ported to that network, as otherwise it would be difficult for the CP to verify if that number can be used for an inbound call. BT suggested that a dialable number should be one that conforms with ITU-T E.164 and is allocated to a network end point that is in service with an end-user and configured to accept incoming calls.

- 3.21 BT also noted that it was not clear whether sub-allocated numbers, where a number allocated by one CP is used for calls on another network, were permitted as a valid CLI. They suggested that the guidance document could be clarified to explain whether the presented number could be used by any third party the owner of the number has given permission to and whether multiple third parties could use the same CLI. Verizon asked for more clarity about the “reasonable steps” that CPs have to take to check that the caller has permission to use a CLI. Verizon and Colt noted that the consultation suggested that providers would need to judge whether numbers were suitably authentic and this could lead to an inconsistent approach across the industry. UKCTA noted that some customers have the ability to set their own Presentation Numbers, and the proposals would require contractual changes for these customers.
- 3.22 Microsoft noted that not all calling technologies require the calling party to have a telephone number and that the proposals discriminate against such services. They suggested that the guidance document should be amended to give providers who offer one-way calling services the option to populate the CLI field with a valid dialable number from a number range allocated to the network, where it is not feasible to provide a unique CLI. A confidential respondent [redacted] also noted that where a calling party uses a switchboard, the main switchboard is typically displayed as the caller ID, instead of the extension number of the caller. They suggested that this type of CLI was permissible and the GC should be revised to reflect this flexibility. Michael F Rollinson suggested that it should be acceptable for the number that is displayed to be the number of a central switchboard enquiries number, but that this number should be registered centrally so the number is not blocked.
- 3.23 Microsoft also noted that there may be some forms of CLI spoofing that are legitimate and do not cause harm to consumers, for example giving domestic violence shelters the ability to protect victims who make calls, doctors who may wish to display their main office number or call centres calling on behalf of a business displaying that business’ main customer service number or a toll-free number for return calls.
- 3.24 We have amended our description of what constitutes a ‘valid’ CLI to provide some additional clarity, but do not agree with all of BT’s suggestions. For calls that originate in the UK, a valid CLI should be a number that is designated as a ‘Telephone Number available for Allocation’ in the Numbering Plan and be shown as allocated in the National Numbering Scheme.¹² Calls that originate outside the UK should have a number that complies with the International public telecommunication numbering plan (Recommendation ITU-T E.164).¹³ We disagree with the suggestion that there may be valid calls using numbers from an unallocated range. As we set out in the revised guidance on CLI facilities, a valid number should be a number that has been allocated to the caller, or one that the caller has been authorised (either directly or indirectly) to use by a third party allocated that number. Therefore, for calls that originate in the UK, a valid CLI should be one shown as allocated in

¹² The National Numbering Scheme is the day-to-day record of the telephone numbers allocated by Ofcom in accordance with the Numbering Plan. It is published on our website here: <http://static.ofcom.org.uk/static/numbering/index.htm>

¹³ <https://www.itu.int/rec/T-REC-E.164/en>

the National Numbering Scheme, as this sets out the allocation of numbers by Ofcom. The originating provider has the responsibility to ensure that valid CLI is provided with a call.

- 3.25 We disagree with Nexbridge's suggestion that the CLI needs to be ported to the network making the call, as there are legitimate use cases where a CLI may be used as a Presentation Number on different networks. We recommend that the party to which the number is allocated should keep records of where they have given a third party or a customer permission to use that number. This is particularly important in cases where the CLI may be allocated to a number of different callers, as these records would support call tracing requests.
- 3.26 We note Microsoft's comment that some call technologies may not require a calling number. In such cases, it is acceptable that the network CLI is provided by the service provider or the CP at the first point of ingress. However, the number should be marked as 'unavailable' so that it is not displayed to the recipient of the call. We have amended our description of valid CLI to include a number which identifies the organisation that the individual is representing, for example where the individual caller is making a call from a line behind a Private Branch Exchange (PBX).
- 3.27 We also note Microsoft's comments about the occasions where a CP may withhold a CLI or present a different CLI to the recipient of the call. The guidance allows for occasions where a customer may wish to withhold their CLI or for a business to display a different presentation number.

The presented number should not result in excessive call charges

- 3.28 In the consultation, we said that the number presented to the call recipient must not be a number that results in charges in excess of the cost of a standard telephone call to a geographic or mobile number, so that consumers would not incur unexpected charges when making a return call using the number presented. BT and Telecom2 suggested that telephone numbers starting 03 and free to caller 080 numbers should also be permitted as CLIs that are presented to the recipient of the call, as calls to these numbers should not result in excessive charges. Vodafone thought that the use of NGCS¹⁴ numbers as Presentation Numbers should not be banned, since this would have serious implications for the many businesses that make use of such numbers. They suggested that there was no need to amend the wording as the existing wording in the guidance was sufficient to prevent excessive call charges. They also noted that the effect of the proposed change would be to require the originator to use a CLI which depends on the commercial pricing imposed by the terminating network for outbound calls, rather than something that is under control of the originator. BT asked for further clarification about other 08 numbers, but thought that all numbers attracting an access charge under an unbundled tariff should be prohibited.

¹⁴ Non Geographic Call Services <https://www.ofcom.org.uk/phones-telecoms-and-internet/information-for-industry/policy/non-geo-call-services>

- 3.29 We acknowledge Vodafone’s comment that there would be a cost to callers, particularly businesses, to change the number displayed to one that does not result in charges in excess of the cost of a standard telephone call to a geographic or mobile number and have decided to keep the requirement as drafted in the current version of the CLI guidelines:

It must not be a number that connects to a Premium Rate Service (e.g. prefixed 09), or to a revenue sharing number that generates an excessive or unexpected call charge (NB the exploitation of a Presentation Number to generate revenue sharing calls may constitute persistent misuse of an Electronic Communications Network or Electronic Communications Service).

- 3.30 However, when selecting a number to be used as a Presentation Number, CPs should be mindful of other guidance that we have published. In Annex 1 of the statement of our policy on exercising our enforcement powers on persistent misuse of an electronic communications network or service, we explained that use of controlled premium rate service numbers as a Presentation Numbers can be considered a misuse of CLI facility.¹⁵ In the same statement, we also explained that we will regard the practice of misleading call recipients into phoning a premium rate or revenue sharing number, including numbers in the 08xx range, or a non-revenue sharing service that leads to the presentation of a fraudulent or unexpectedly high bill, as misuse.¹⁶ Therefore, we reserve the right to take action against any provider who misuses Presentation Numbers in this way.

Markings used to protect caller’s privacy – marking a CLI as ‘unavailable’

- 3.31 In our proposed revised guidance on CLI facilities, we said that the originating provider should provide the correct privacy marking alongside a number, using one of the following terms: “available”, “withheld” or “unavailable”.
- 3.32 Vodafone asked that we clarify when the ‘unavailable’ status should be used, as the original intent for this status was to indicate where the caller did not have the option to withhold their CLI. Colt and UKCTA also welcomed further clarification of the different CLI classifications. In addition, UKCTA noted that some providers are currently unable to comply with this requirement and it is not clear if and when such an option will be developed.
- 3.33 First Orion and Truecall suggested that numbers that are marked unavailable should not be withheld from the recipient of the call, as this removes information that may be useful to the recipient. They suggested that the unavailable marking (or an alternative indicator) could provide additional information to help the recipient assess the reliability of that CLI. Truecall also suggested that this would incentivise overseas CPs to improve the reliability of their CLI Data. They noted that the proposed changes would mean that legitimate calls with a CLI marked as ‘unavailable’ were less likely to be answered.

¹⁵ Paragraph A1.20 in 2016 Persistent Misuse statement

<https://www.ofcom.org.uk/consultations-and-statements/category-1/review-of-how-we-use-persistent-misuse-powers>

¹⁶ Paragraph A1.14 in 2016 Persistent Misuse statement

- 3.34 We disagree with the suggestion that CLIs marked as unavailable should be displayed to the recipient of the caller. Consumers expect to see useful information provided with a CLI. Invalid CLI Data that does not provide information about the caller would not help the recipient be better informed about its origins and so should not be shared with the recipient of the call. Instead, CPs should work with their interconnect partners to improve the accuracy of CLI Data.
- 3.35 However, following these comments, we have decided to clarify in the guidance that the 'Unavailable' flag should only be used where the network, rather than the customer, has restricted the display of the CLI or where the CLI is absent. This includes situations where the CP at the first point of ingress inserts their number to replace a CLI that is considered unreliable.

Role of the transit and terminating CP in providing valid CLI Data to the recipient of the call

- 3.36 Many stakeholders opposed the proposal that transit and terminating providers should be partly responsible for ensuring that only valid CLI Data is made available to the recipient of the call. Vodafone, Verizon, BT, UKCTA, Simwood, Telecom2 and First Orion all noted that that transit and terminating providers do not have access to information about the accuracy, reliability and dialability of CLI and it was unfair to make them responsible for CLI Data. Colt, Verizon, Vodafone and UKCTA suggested that only the originating provider should have responsibility for ensuring that the CLI Data is correct. Telecom2 noted that the technology in use by most UK CPs is not capable of making the real time changes required to support the provision of valid CLI. A confidential respondent [X] noted that they do not have the ability to validate CLI within their switches. Simwood gave the example of a Type 4 Presentation Number, where the network receiving a forwarded call will not know if the original caller had permission to use that number.
- 3.37 Verizon asked Ofcom to provide examples of the reasonable steps a CP would need to take to check the caller had permission to use the number, and noted that it did not seem proportionate to hold a transit provider responsible for these types of decisions. Telecom2 and UKCTA disagreed with these proposals because the changes could cause serious quality of service issues or introduce system and process changes. Telecom2 noted that it would be impossible to identify whether overseas CLI were dialable in real time. Verizon and UKCTA suggested that sometimes CLI Data was unintentionally incomplete in international calls as differences in international standards could also lead to incompatibility and lost fields.
- 3.38 A number of CPs also explained that this approach could have adverse effects on business relationships. Vodafone and UKCTA noted that the proposals would put transit providers into a situation where they have to make decisions on the quality and veracity of the traffic they handle. They thought that this could lead to difficult contractual negotiations with wholesale providers, especially if the UK is creating a bespoke approach which is not followed in other countries. Colt also noted that the proposals would go against global principles for telecommunications, where the originating provider should have the obligation to authenticate the CLI. Colt and UKCTA also noted that in the B2B sector,

- customers have the ability to set the presentation CLI, and the proposals had not considered the implications for process, system and/or contractual changes.
- 3.39 However, some of respondents showed support for parts of the proposals. BT suggested that, if Ofcom had sufficient power to do so, in addition to interconnect agreements CPs within the scope of the GC should also be required to mandate compliance in subscriber contracts and reseller agreements. BT also noted that the definition of a valid CLI should extend to calls with numbers that are outside Ofcom's jurisdiction, but also suggested that it was unclear how a CP would know that a CLI was dialable but not actively allocated. They also gave the suggestion that a UK specific indicator in IP signalling could help CPs to identify calls that originate in the UK and apply the appropriate tests for these numbers. Nexbridge supported the proposal that transit and terminating CPs could check the number has the correct format or is from a valid range.
- 3.40 We agree that the originating CP should be responsible for ensuring the CLI is a number that identifies the caller and a number that the caller has been given permission to use. However, as set out in our statement and consultation on the review of the General Conditions, GC C6 applies to all CPs who may be involved in the transmission of a telephone call.¹⁷ We acknowledge that while it may not be technically feasible for transit and terminating providers to check on a call by call basis that each CLI is a valid, dialable number which uniquely identifies the caller, they still have a role to ensure that accurate CLI Data is presented to the recipient of the call. We set out the steps that a transit or terminating provider should currently take to verify the CLI in our revised guidance document.
- 3.41 As CLI authentication is not yet available, we would expect the transit and terminating CPs to run limited checks on the validity of a CLI. Where they have the capability in their network, we expect these CPs to verify that the CLI has the correct number of digits and is in a suitable format. For calls that originate in the UK, this would involve checking against our National Numbering Scheme to ensure that the number is from an allocated range. For calls that originate outside the UK we expect the CP to check the number against the formats defined in ITU-T E.164. 'Malformed' CLIs that do not comply with UK or international standards are obviously not valid numbers and should not be used with telephone calls. Therefore, the risk that transit and terminating CPs block legitimate traffic is low.
- 3.42 We acknowledge that some CPs do not have the capability to check the CLI provided with each call on a call by call basis. There are other, non-technical, ways for CPs to improve the accuracy of CLI Data in the telephone calls they carry, without having to block calls. For example, they can work with their interconnect partners to ensure as far as possible that the calls that are passed into their network have valid CLI Data. The aim of this is to make it more difficult for a call with invalid CLI Data to be connected. This should then incentivise callers and originating providers to improve the quality of the CLI Data provided with a call,

¹⁷ Paragraph 13.24 https://www.ofcom.org.uk/data/assets/pdf_file/0026/106397/Statement-and-Consultation-Review-of-the-General-Conditions-of-Entitlement.pdf

meaning that the quality of CLI Data presented to the recipient of a call will also improve. This will help the recipient of the call to be better informed about the party who is calling them. CPs should include the requirements in the GCs in their contracts and agreements where they think it is appropriate.

- 3.43 BT also suggested that Ofcom could control number allocation more effectively to prohibit number use by internationally based call centres or ensure that allocated UK numbers are not used to generate nuisance calls.
- 3.44 There may be legitimate reasons why a UK CLI is used by an internationally based call centre as a Presentation Number, for example where a UK business is using an outsourced call centre. However, CPs must ensure that the CLI Data is used correctly. As the guidance sets out, the Network Number must identify the point of ingress for that call. Therefore, a UK CLI should not be used as a Network Number for internationally based call centres, except in the case where the calls are transmitted in a private network to a point of ingress in the UK.
- 3.45 In our March 2018 statement on the review of the General Conditions¹⁸, we set out our decision to further amend the General Conditions to give us the power to withdraw numbers where they are used inconsistently with condition B1, the Numbering Plan or otherwise misused.

Responsibility of the CP at the first point of ingress

Replacing the CLI of an incoming call where the CLI is not available or is missing

- 3.46 There will be calls that originate with a CP outside the scope of these requirements. In our consultation, we proposed that the CP at the first point of ingress to the UK networks should be responsible for ensuring that the CLI Data provided with the call contains valid information. We proposed that where this CP considers the CLI is not reliable, or where CLI Data is missing, the CP should insert a CLI that has been allocated to them for this purpose.
- 3.47 Nexbridge, First Orion and Vodafone supported this approach, although Vodafone also noted that international standards for SIP¹⁹ are written with the expectation that a public network only overwrites the “from” field as an exception and CPs will be under pressure from their customers to seek alignment with the international approach. Colt disagreed with the proposal and thought that the merits of this proposal were not clear. They noted that this proposal would introduce systems changes for B2B CPs, who frequently receive international calls into the UK, the majority of which are genuine. Verizon also disagreed as they thought that for calls that do not originate in the UK, only the originating provider would be able to authenticate the number and other providers will only be able to check that it is in a valid international format. They noted that there was neither a global central database which allows a CP to query the authentication of the number nor a mandated international cross network standard that would support the sharing of authentication

¹⁸ <https://www.ofcom.org.uk/consultations-and-statements/category-1/review-general-conditions>

¹⁹ Session Initiation Protocol – This is the standard used to support voice calls carried over a data network.

data. BT and Verizon noted it was not clear how a UK CP could determine that the customer has been allocated the use of a CLI for calls that are originated overseas.

- 3.48 BT supported the proposal that the provider at the first point of ingress is responsible for ensuring valid CLI Data is generated. However, they disagreed with the suggestion that the number inserted into the call should be a dialable number. Instead, they suggested that the CLI should be one that identifies the point of origin but it should not be presented to the recipient of the call. Rather, they thought that the CLI should carry a suitable identification message that can be displayed or provided via calling '1471' that will not encourage a return call. They also asked for further guidance on the identification of the invalid CLIs that should be replaced, noting the situation where a dialable CLI is presented but it is considered untrustworthy.
- 3.49 A confidential respondent [X] noted that it was generally accepted that the CP at the first point of ingress was responsible for ensuring that the CLI Data contains valid information. Their analysis suggests that calls without a valid CLI are very unlikely to be legitimate calls and so they already block all calls that do not have a valid CLI. They suggested that it would be preferable to extend network level blocking to all internationally originated calls that do not have a valid CLI.
- 3.50 We note that the suggestion to replace an invalid or missing CLI at the point of ingress to UK networks was originally introduced in the NICC standard for CLI display services.²⁰ In section 6.3 of that document it states:

When the received Network Number is considered unreliable or is absent, then:

I. The Network Number shall be set to a number from a range allocated to the network receiving the call.

- 3.51 However, we understand that not all CPs have implemented this. This clarification in the guidance should mean that, except where it is not technically viable, all CPs should adopt this measure to improve the quality of CLI Data for calls that ingress into a network within the scope of the GCs.
- 3.52 This Network Number should not ordinarily be displayed to the recipient of the call. We have decided not to require CPs to provide a non-chargeable explanatory announcement for the very few cases where the CLI is displayed in error and the number is dialed. Instead, we plan to publish a list showing the numbers that have been allocated and the CPs that hold those allocations. This will help consumers and other CPs to identify the CP who has inserted the CLI into the call. We also encourage CPs to help their customers if they have enquiries about these types of calls.

Proposal to designate the 08979 number range to be used as inserted Network Numbers for CLI

- 3.53 In the consultation we proposed to designate the number range starting 08979 as "Inserted Network Numbers for Calling Line Identification" in the Numbering Plan. We

²⁰ ND1016 - <http://www.niccstandards.org.uk/files/current/ND1016v3%20%201.pdf?type=pdf>

- proposed that blocks of numbers from this range could then be allocated to CPs to use as 'inserted' Network Numbers in circumstances where the call involves CPs that are outside the scope of the guidance document and the CLI is unreliable or absent.
- 3.54 BT, First Orion, Nexbridge, Simwood, Telecom2 and Vodafone agreed with our proposal to designate a specific number range to be used as inserted Network Numbers.
- 3.55 Telecom2 thought that it was a good proposal, but added that they would want the original CLI to be available to assist with detecting and dealing with nuisance calls and proposed that there should be two parts to this CLI, so that it could identify the origin of the call as well as the CP who has received this call into the UK networks. Simwood suggested that the number range allocated should incorporate the existing Communications Provider Identity code (CUPID) to aid identification amongst CPs.
- 3.56 Vodafone and UKCTA noted that by designating 08979 as Network Codes in Part A3 of the Numbering Plan, rather than as Public Communications Network Numbers in Part A1 of the Numbering Plan, there would not be an obligation under GC 20.1 on CPs to provide access and route calls to the numbers. Vodafone suggested that we amend the Numbering Plan so that the obligation to route calls would apply (e.g. by designating the range as non-geographic numbers rather than as network codes) or alternatively, make it clear in the guidance document that Ofcom expects CPs to route calls to 08979 numbers.
- 3.57 Concerns over the choice of number range were expressed by Michael F Rollinson, Verizon, UKCTA and a confidential respondent [X]. The main objection was that 08979 was too similar to the 089 numbers that had been used for premium rate services in the past. There may still be negative connotations and consumers may be reluctant to return calls to numbers beginning with 089. A confidential respondent [X] suggested that we designate a number range beginning with 04 or 05 for this purpose instead.
- 3.58 Michael F Rollinson noted that if the 08979 number is displayed and return calls were made to the number, the call would be more expensive than a call to a 'standard' number. He suggested that using 03 numbers (which are charged at geographic rates) would be preferable.
- 3.59 With regards to the characteristics of the proposed number range, we do not consider it feasible for us to designate a detailed two-part CLI digit structure that identifies the origin of the call as well as the CP who has received the call into the UK networks. We proposed that the numbers be allocated to CPs in blocks of 10,000, in the format 08979 XX 0000 – 9999, where XX would uniquely identify the CP allocated the numbers. The last four digits of each number may be used by the CP holding the block to provide additional information within the digit structure, and potentially information on the origin of the call. However, this is a matter for CPs in managing their use of inserted Network Numbers.
- 3.60 A CUPID is a unique three-digit identification code issued to each CP. Incorporating the CUPID into the structure of inserted Network Numbers would reduce the size of allocated block to 1,000 numbers, in the format 08979 XXX 000 – 999. We do not consider this to be an efficient use of the numbers and it would also limit the ability for CPs to introduce their own structure into the last digits of the number, as mentioned in the paragraph above. A

more effective way to identify the CP holding the allocation, and thereby the CP that has inserted the number as the CLI, would be to consult Ofcom's published list of 08979 allocations in the National Numbering Scheme on our website. This task would be no more onerous than consulting the National Numbering Scheme to identify the relevant CP by its CUPID.

- 3.61 We do not consider that inserted Network Numbers should be defined as Public Communications Network Numbers in the Numbering Plan. A Public Communications Network Number is defined in the Numbering Plan as "*a Telephone Number that is available for Allocation, Adopted or otherwise used on a Public Communications Network and is not a Network Code, an Administrative Code, a Telex Service Number or an X.25 Data Network Number*". A Network Code is defined in the Numbering Plan as "*a Telephone Number that is Adopted or otherwise used for network purposes only*". Inserted Network Numbers are not intended to be displayed as the CLI to consumers and only in rare circumstances would we expect the numbers be dialed. Their purpose is to help transit and terminating CPs to identify the CP that has inserted the number in place of an absent/unreliable Network Number and to simplify the call tracing process. Therefore 'Network Code' is a more accurate description of the use of inserted Network Numbers.
- 3.62 We proposed to use 08979 as we have already designated other number ranges beginning with 089 for Network Code purposes. Also, the digits 08979 are not close to numbers used for consumer-based services, which should limit the risk of misdials. As the inserted Network Number is not meant for display to the called party, return calls to the numbers will be rare. We have decided not to require CPs to provide a non-chargeable explanatory announcement for the very few cases where the CLI is displayed in error and the number is dialed. We therefore do not consider it to be problematic to use numbers starting with 089 for this purpose or necessary to have a regulatory requirement on CPs to route calls to the numbers.

Implementation of this proposal

- 3.63 Vodafone noted the technical challenges of inserting the number by the implementation deadline of October 2018, particularly on legacy networks, suggesting that this should be reviewed in Summer 2018 to decide if it was enforceable. UKCTA and two confidential respondents [X] also noted that this was not something that could be implemented in legacy networks.
- 3.64 We acknowledge that it may take some time to implement this change on some networks, and therefore some CPs may not have this functionality by the implementation date of the new General Conditions. Where the CP is unable to make the changes in time, if appropriate, we would expect to see their plans for implementation, including the date by which this will be implemented on their network. GC C6.4 requires CPs to ensure, so far as technically feasible, that the CLI provided is a valid number, so we would not expect this on networks where it is not technically possible to implement this change.

Responsibility of the CP passing the call to a network outside the scope of these requirements

- 3.65 We proposed that where a call is being passed to a network outside the scope of these requirements, if the CLI classification is ‘withheld’ or ‘unavailable’, the CLI Data should be deleted by the CP at the point of egress. This is in order to protect the customer’s identity where they have not chosen to make their CLI available.
- 3.66 Vodafone supported the removal of withheld CLIs on calls to networks that fall outside the scope of our requirements. However, they suggested that it would be beneficial if Ofcom and ICO could draw up a list of “trusted” and “non-trusted” destinations, to ensure that this is applied consistently between CPs. BT asked whether it would be permissible for UK CPs to remove withheld CLIs from calls to international trusted networks, where there is sufficient evidence that the call is then passed to a network that does not support CLI restriction.
- 3.67 We think CPs are best placed to determine which networks are trusted and not trusted, as they have the direct relationships with their interconnect partners. Therefore, we do not intend to publish a list of trusted and non-trusted destinations. We acknowledge that this may mean that some CPs may make different decisions, based on the evidence that is available to them and their approach to managing risk.
- 3.68 PECR gives the caller the right to withhold their number at the point where the call terminates. If a CP has sufficient evidence that any other CP involved in the connection of that call may not support CLI restriction, the UK CP should remove the withheld CLI, even where the call is initially handed over to a trusted network.

Use of the end user’s CLI Data

- 3.69 Verizon questioned the proposal to remind CPs of their responsibilities to respect the end user’s privacy choices, particularly when passing the data outside of their network. They thought that this was unnecessary as the requirements are already covered under existing CLI regulations, the e-Privacy regulations and data protection legislation.
- 3.70 We think this clarification is helpful as it provides further guidance for CPs on how to manage data relating to a customer. Therefore, we have decided to keep this in the guidance document.

Calls to the emergency services

- 3.71 BT noted that calls to the emergency services must always be connected and should never be blocked. They suggested that the GCs should make it clear that calls to the emergency services should never be blocked, regardless of what, if any, CLI is present. They also suggested that the CLI proposed for CPs to insert where existing CLI Data is considered to be unreliable or absent is also used for emergency calls that originate from a mobile handset that is roaming onto another network. No CLI Data is usually available for these

roaming calls. BT also proposed an addition to the guidance to clarify how emergency calls should be handled where the CLI does not meet the dialable or valid criteria.

- 3.72 We agree with BT's comment that calls to the emergency service should never be blocked. Given the importance of this, we are consulting separately on amending GC C6.6 to clarify that the requirement to block calls with invalid CLI does not apply to calls to the emergency services, which must always be connected.²¹ Following that consultation, we will also update the CLI guidance accordingly. We disagree with the proposal to extend the use of the inserted CLIs for calls from roaming mobile handsets, as there are already procedures in place where the emergency services need to identify the network that is carrying the call and therefore there is no additional benefit in having the inserted number in this situation.
- 3.73 Simwood suggested that the use of a Network Number to provide location information was outdated and has not evolved with VoIP based services. Instead, they suggested that location information should be provided within the signalling or address information maintained by the CPs and queried by the emergency services. A confidential respondent [X] suggested that location data should not be mandatory for CLIs that are provided purely for inbound calling.
- 3.74 On a forward-looking basis we agree that there may be improved solutions for determining the location for emergency calls from IP-based phone services. While industry reviews the available approaches and standards and develops workable solutions, we do not consider it disproportionate for VoIP providers to continue to ask their customers to provide an address for use in the existing database that the emergency services rely upon for location information. Currently, the Network Number provides the emergency services with useful information regarding the network from which an emergency call is made, it can be readily provided by the equipment deployed today and in many cases can help locate a caller.
- 3.75 In theory, CLIs provided for inbound calling need not have a location data recorded but in practice we are aware that such CLIs can be and are able to contact the emergency services. When such calls are answered by the emergency services the data associated with the number is either non-existent or potentially erroneous (leading to delays in locating the caller). Therefore, we do not consider it disproportionate for those providing in-bound only CLIs to record a valid location in the event that an out-bound emergency call is made.

Network Numbers and Presentation Numbers

- 3.76 In the consultation, we proposed that the number presented to the recipient of the call should be a valid, dialable number which uniquely identifies the caller. BT, Vodafone and Colt asked for clarification about the expectations that arise for Network Numbers and Presentation Numbers. Vodafone suggested that the regulations should define the Presentation Number as the number that is used for display services and the Network Number should identify where the call entered the public network. They added that this would mean that every call would carry both CLIs and allow Ofcom to clearly specify what

²¹ <https://www.ofcom.org.uk/consultations-and-statements/category-3/consultation-changes-general-conditions-of-entitlement>

is expected of each type of CLI. BT suggested that paragraph A1.1 of the guidance document should be modified to ensure it is consistent with ND1016, that the Network CLI of the caller should not be modified. Vodafone reiterated the importance of the different types of Presentation Numbers for CPs.

- 3.77 In most cases, the number presented to the recipient of the call should be the Presentation Number. Although some calls will have a different Network Number and Presentation Number, in many situations for legacy networks and in some SIP calls, the Network Number and the Presentation Number may be the same number. Where calls have the same CLI for the Presentation Number and Network Number, CPs must be mindful of the requirements for both types of numbers. In the guidance document we will also clarify that for calls from a fixed location, the Network Number must be a number that has been allocated to the originating CP or a number that has been imported into the network, identifying the point of ingress for that call and that this number should not be changed by other CPs in the call path.
- 3.78 We asked, but did not receive any suggestions for other specific scenarios which should be included in the list of the types of Presentation Number. However, BT suggested that it would be helpful if Ofcom can set out a process for reviewing and amending this list. Vodafone disagreed that the list of Presentation Number types should be relegated to an annex. A confidential respondent [redacted] questioned the efficacy of contractual needs for types 3, 4 and 5 Presentation Numbers, suggesting that CPs will still need to carry out CLI validation, regardless of any contractual agreement. They noted that as the GC places an obligation on the CP, then this means they will be required to implement authentication as well as the contractual alignment. Vodafone suggested that Ofcom should focus attention on Types 3-5 Presentation Numbers as they think these are at the root of illegitimate CLI spoofing.
- 3.79 In light of the responses, we will retain the current list of Presentation Number types. We can review this list where there is a need. Where the caller has provided their own Presentation Number, as there is currently no way for the caller to demonstrate the authenticity of the CLI to the originating CP, a contractual commitment is still necessary.

Preventing calls with invalid or non-dialable CLI from being connected to the end user

- 3.80 The revised GC C6.6 requires regulated providers, where technically feasible, to take all reasonable steps to identify calls with invalid or non-dialable CLI Data and prevent these calls from being connected to the called party. In our consultation, we proposed that CPs could do this by blocking or filtering the calls.
- 3.81 Nexbridge, Truecall and Michael F Rollinson supported these proposals. Nexbridge noted that, subject to having access to accurate number range information, it should be relatively easy for a CP on an IP network to check the CLI provided with a call. Colt and UKCTA recognised the benefits of the proposals, but also warned that blocking international calls may result in genuine calls being blocked. They thought this would cause unnecessary

disruption in the business sector. UKCTA added that this approach would be a resource intensive, short term fix, but would not deal with the nuisance calls problem at source. Microsoft preferred an approach that would present the consumer with information that can attest to the authenticity of the CLI, allowing calls to terminate properly and allowing consumers to make informed decisions about incoming calls.

- 3.82 Stakeholders also questioned whether CPs can identify calls with invalid or non-dialable numbers, so that these calls can be blocked. Some, such as Truecall noted that there was not currently a resource that can help CPs identify valid numbers globally. They also noted the difficulty of ensuring that a number from a valid range is dialable. Telecom2 suggested that some providers might be unfairly disadvantaged because they are not members of organisations that share information about sources that might carry nuisance traffic. In addition, they also thought that as CPs learn from experience, the consumer harm would have occurred by the point a CLI is blocked. Two confidential respondents [3<] also asked for further clarification about what blocking invalid or non-dialable calls would entail in practice. They argued that it was not technically feasible for a CP to block a number that may look valid but is unallocated or not in use.
- 3.83 Truecall suggested other types of numbers that could be added to the list of calls that are blocked, including CLIs that cannot be used for a return call and CLIs that result in a returned call but where calls are not answered or where the caller is not given the option of opting out of receiving future calls. They suggested that the CLIs that satisfied their criteria made up to 62% of the top 241 CLIs that they registered on their system, as compared to 12-13% based on our proposed criteria.
- 3.84 Colt noted that a non-standard approach by CPs could lead to an uneven playing field, where some CPs block calls and other do not. Microsoft suggested that there was risk of discrimination against new or different technologies, if there is no additional guidance for blocking invalid or non-dialable CLI. They thought that were CPs allowed to act on reasonable suspicion that a source is carrying nuisance traffic they should also make available on request objective, valid and transparent criteria for these decisions and provide a way for third parties to challenge these decisions. They also suggested that Ofcom or another designated neutral third-party should remain available to act as an arbitrator. First Orion also noted their concern about the transparency of blocking, but from the perspective of the customer, asking who a consumer can talk to when they are not receiving the calls that they want. They thought that if all CPs are blocking, it would be difficult to identify the party that has blocked the call and why it was blocked.
- 3.85 First Orion opposed the suggestion that, rather than blocking, a call could be diverted to a mailbox. They thought that this would still present the scammer with an opportunity to contact the consumer and expose a vulnerable person to a scam. They recommended that a marking indicating the call is a scam is provided with the call and that the consumer is given the opportunity to opt in to block all scam calls. Where these calls are blocked, they thought a call log should be made available to the recipient of the calls so they can review their call history.

- 3.86 UKCTA suggested that a better solution may be to trace the call back to the source, but noted that this also has its challenges, particularly where multiple CPs or international calls are involved.
- 3.87 We note the concerns raised about a CP's ability to accurately identify calls with invalid or non-dialable numbers, so that only these calls are blocked. As we clarify above, for the time being, we expect transit and terminating providers to run limited checks on the validity of a CLI; e.g. checking that the number has the correct number of digits and is in a suitable format. For calls that originate in the UK, we also expect the originating provider to populate the CLI Data correctly so that they will not be blocked or diverted. Genuine calls should have a valid CLI that satisfies these criteria and therefore the risk of blocking genuine calls is low.
- 3.88 We disagree with First Orion's comments about call filtering services which divert calls to a mailbox. We think there are benefits to this approach, as the calls that are considered harmful will not be presented to the consumer immediately. It gives CPs who are unable to introduce blocking at a network level a technical option to manage the calls that are connected to the end user. We also disagree with the suggestion that scam calls are presented with a specific indicator, so consumers can choose to block all of these calls, as it is currently not possible to identify accurately all the characteristics of scam calls nor is there widespread capability to display such an indicator to the recipient of the call.
- 3.89 Where CPs are blocking calls, we agree with the suggestions that there needs to be a process for the caller or a third party to challenge where they think calls have been blocked in error. Therefore, in our separate consultation document²², we are proposing to add additional guidance for CPs who are blocking or stopping calls. We also acknowledge UKCTA's suggestion for tracing calls back to the source. As noted above, this is another way in which CPs can demonstrate that they are preventing calls with invalid or non-dialable CLI from being connected to the recipient, particularly if they are able to work with the other providers to improve the accuracy of CLI Data presented on these calls.

Other comments

Comments on GC C6

- 3.90 Stakeholders also took the opportunity to comment on parts of GC C6. BT asked for clarification about whether the GC applied to resellers who do not provide PATS or calls originating in the UK. In addition, they also asked Ofcom to consider how the scope of the GC could be extended to protect consumers from other forms of harmful communications, e.g. SMS spoofing.
- 3.91 We do not think the scope of the guidance document needs to be extended to other networks. For resellers who do not provide PATS, if their calls do need to be connected via

²² <https://www.ofcom.org.uk/consultations-and-statements/category-3/consultation-changes-general-conditions-of-entitlement>

the public network, the calls will need to be connected via a PATS provider at some point, and so these rules will apply once the call enters the public network.

- 3.92 We also do not see the need to extend these rules to SMS messages. The relevant issue currently in SMS is SMS spoofing, where the scammer inserts a false sender name into a SMS message. The requirements in the GC and the guidance document will not help to solve this problem. We are working with mobile network operators to encourage them to work with trusted organisations to ensure that some identities are only used with valid numbers.
- 3.93 BT also questioned the requirement in the revised GC requiring providers to enable CLI facilities by default. They asked for further guidance about what was required, as they thought that it would be disproportionate to enable CLI by default for all customers, where there are customers who choose not to make or receive calls on their landlines or who do not have a handset that is capable of displaying CLI Data. Instead, they suggested that ‘enable by default’ should mean that the regulated provider should only have to provide CLI facilities when a customer actively requests the service and when the network is capable of providing them.
- 3.94 The requirement for the provision of CLI facilities by default in GC C6.2 has the caveat “*unless [the CP] can demonstrate that it is not technically feasible or economically viable to do so*”. Therefore, where a CP is unable to meet this requirement they should provide evidence to show why it is not technically feasible or economically viable to do so. However, where it is technically feasible and economically viable, we expect CPs to enable CLI by default, not, as BT suggests, only when it is actively requested by a customer.
- 3.95 A confidential respondent [X] asked for clarification about the aspects of CLI Facilities that regulated providers are expected to offer without any additional charge, asking if CPs are also prohibited from charging for the provision of Last Caller Barring services, which is traditionally provided by CPs in the context of CLI management.
- 3.96 GC C6 defines CLI Facilities as the facilities which enables the telephone number of a calling party to be presented to the called party prior to a call being established. GC C6.5 applies in relation to “standard” CLI Facilities. Therefore, the requirements of GC C6.5 apply to the basic functions that support the presentation of a CLI. Supplementary or value-added services that are not required for the display of a CLI, such as the provision of Last Caller Barring are not within scope of this requirement, provided standard CLI Facilities are available for free.

Anonymous Call Reject

- 3.97 In our consultation we proposed that where a called end user has selected to use Anonymous Call Reject (ACR) and a call has been rejected, CPs should advise the calling party why their call has not been connected and that this message should be provided free of charge.
- 3.98 The Consumer Panel noted that it was vital that ACR provisions remain unchanged, as it was vital that organisations that provide confidential help lines are able to withhold their

number. A confidential respondent [redacted] agreed with the proposals not to charge for the provision of information to callers when calls are rejected due to ACR. Another confidential respondent [redacted] asked for clarification about the aspects of ACR that providers are required to provide free of charge.

3.99 First Orion thought that ACR was unusable for most vulnerable users as many useful calls, such as calls from GPs, have withheld CLIs. Instead, they suggested that users are given the ability to block scam calls and not to assume that withheld numbers are scam calls.

3.100 We disagree with First Orion's comment as consumers should be given the choice if they wish to receive calls that have withheld CLI. At the same time, end users must also have the ability to withhold their CLI. However, we would encourage businesses, where possible, to ensure that valid and correct CLI Data is provided so that legitimate calls are not blocked. As set out in the consultation, CPs are required to provide a free of charge message informing the calling end user of the reason the call was rejected.

Comments outside the scope of this consultation

3.101 Colt and UKCTA noted that there is currently a disparate approach to call tracing and that not all providers currently participate in call tracing requests. They suggested that an industry wide approach is required to ensure a level playing field for all CPs.

3.102 NICC standards has guidelines for the tracing of calls between different networks.²³ We recommend all CPs follow the same process for call tracing to ensure that there is a consistent and best practice approach across industry.

²³ ND1437 - <http://www.niccstandards.org.uk/files/current/ND1437%20V2.1.1.pdf?type=pdf>

4. Decisions, legal tests and next steps

Summary of our decisions

- 4.1 In our September 2017 consultation, we proposed to revise the guidance on CLI facilities setting out how CPs should handle CLI Data to ensure that only valid, dialable CLI which uniquely identifies the caller is presented to the recipient of a call.
- 4.2 Having taken due account of responses from 16 stakeholders, we have decided to update the guidance. The updated guidance clarifies the meaning of a valid and dialable CLI for originating, transit and terminating providers, in terms of technical capabilities that are available today. The guidance document sets out:
- The responsibility of the originating provider to ensure that accurate CLI Data is provided with a call.
 - The different requirements of Network Numbers and Presentation Numbers.
 - The tests that a transit and/or terminating provider should carry out to check if the number is from a valid number range.
 - The responsibility of the CP at the first point of ingress, for calls that originate on a network outside the scope of these requirements. Where the CP suspects that the CLI Data is not valid or where there is no CLI Data, they should replace the information with a number that has been allocated to them for this purpose.
 - The options available to CPs to prevent calls with invalid or non-dialable CLI from being connected to the end user.
- 4.3 We have decided to proceed with our proposal to designate 08979 numbers in the Numbering Plan as 'Inserted Network Numbers for Calling Line Identification'. CPs can use numbers from their allocated block as inserted Network Numbers where no number is present or they suspect that the incoming CLI is not reliable.
- 4.4 However, rather than requiring CPs to provide a non-chargeable explanatory announcement on any calls to this number as we had proposed in the consultation, we have decided to publish the list of allocated numbers and ask CPs to help their customers with any enquiries they have about calls displaying a CLI with an 08979 number.
- 4.5 Alongside this document, we are also publishing a consultation which includes an amendment to GC C6 to make it clear that calls to the emergency services are exempt from these the requirement in GC C6.6 to prevent calls with invalid or non-dialable CLI reaching the end-user.²⁴ That consultation includes a consultation on wording that we are proposing to add to section 6 of the CLI guidance to reflect the change to the condition.

²⁴ <https://www.ofcom.org.uk/consultations-and-statements/category-3/consultation-changes-general-conditions-of-entitlement>

Legal framework for designating the 08979 range in the Numbering Plan

- 4.6 Ofcom administers the UK's telephone numbers. We do this as part of our regulation of the communications sector under the framework established by the Communications Act 2003 ('the Act'). It is our duty, as required by section 56 of the Act, to publish the Numbering Plan, setting out the telephone numbers available for allocation and any restrictions on how they may be adopted or used.
- 4.7 Our decision to designate the 08979 range as 'Inserted Network Numbers for Calling Line Identification' requires a modification to the Numbering Plan. Section 60 of the Act sets out the process that we must follow to do this, including that we must consult on the proposed modification and set out how the proposal complies with our legal tests and duties in the Act.
- 4.8 We satisfied the requirement to consult on our proposed changes to the Numbering Plan in our consultation on the guidelines for CLI Facilities and included a notification of our proposed modifications to the Numbering Plan.

Legal tests and statutory duties in relation to designating numbers in the Numbering Plan

- 4.9 We consider that the changes we are making to the Numbering Plan meet the test set out in section 60(2) of the Act. Our changes are:
- a) **objectively justifiable** because they are necessary to make a specific number range available for allocation to CPs to be used as inserted Network Numbers in situations when a CP receives calls from CPs that are outside the scope of the guidance on CLI facilities and have absent or unreliable CLI. Designating a specific number range for this purpose will help with call tracing activities, making it easier to identify the network that has inserted the Network Number and accelerating the call tracing process. It will also help CPs to ensure that the CLI data provided with a call contains a valid and dialable number;
 - b) **non-discriminatory** since the changes will apply equally to all CPs;
 - c) **proportionate** as the changes will facilitate CPs to meet the obligations under our revised GCs and adhere to the guidance on CLI facilities. They will not make any substantive change to the scope of regulation; and
 - d) **transparent** as the reasons for the changes are explained in this document and were explained in the consultation document.
- 4.10 We consider that our modifications to the Numbering Plan are consistent with our principal duty under section 3 of the Act and the Community requirements set out in section 4 of the Act, particularly the third Community requirement to promote the interests of all persons who are citizens of the European Union. Designating a specific number range to be inserted by CPs in situations where they receive a call with absent or

unreliable CLI will further the interests of citizens in relation to communications matters as it will accelerate the call tracing process and will help to promote reliable CLI data.

- 4.11 We are satisfied that the modification fulfils our general duty as to telephone numbering functions under section 63 of the Act by securing the best use of telephone numbers and encouraging efficiency and innovation for that purpose. The modification meets a requirement for us to set aside a range of numbers to facilitate CPs in meeting their obligations under our revised GCs and to follow the guidance in an effective manner that would further call tracing activities.
- 4.12 The notification setting out our amendments to the Numbering Plan is included at Annex 2 of this document.

Next steps

- 4.13 The new General Conditions, including GC C6 will come into force on 1 October 2018, at which point the revised guidance on CLI facilities will also become applicable. However, when considering whether to take enforcement action against GC C6, where a CP has not been able to make the relevant changes by the implementation date, where appropriate, we will take into account the CP's plans for making these changes. These plans should include a clear timeline for implementation.
- 4.14 Our consultation on an amendment to GC C6 to make it clear that calls to the emergency services are exempt from these rules closes on 28 May 2018. We plan to publish a statement on our proposals in the summer.
- 4.15 CPs may now apply for an allocation of 08979 numbers. The numbers will be allocated in blocks of 10,000 to CPs on request.²⁵

²⁵CPs wishing to apply for an allocation of 08979 numbers should contact Ofcom's Numbering Team for information on the application process for this range. The Numbering Team can be contacted at numbering.applications@ofcom.org.uk.

A1. Consultation respondents

- A1.1 We received 16 responses to the consultation. The non-confidential responses can be viewed on our website here: <https://www.ofcom.org.uk/consultations-and-statements/category-2/promoting-efficient-use-of-geographic-telephone-numbers>
- A1.2 We received non-confidential responses from:
- BT
 - Colt
 - Communications Consumer Panel and the Advisory Committee on Older and Disabled People (ACOD)
 - First Orion UK Limited
 - Mr. Michael F Rollinson
 - Microsoft Corporation
 - Nexbridge Communications Limited
 - Simwood eSMS Limited
 - Telecom2 Limited
 - Truecall Limited
 - UKCTA
 - Verizon
 - Vodafone
- A1.3 Three respondents asked for their name and response to be treated as confidential.

A2. Notification of Ofcom's decision to modify the provisions of the National Telephone Numbering Plan under section 60 of the Communications Act 2003

WHEREAS –

- A. Section 56(2) of the Act provides that it shall be Ofcom's duty from time to time to review the Numbering Plan and make such revisions that they think fit, provided such revisions are made in accordance with the requirements, so far as applicable, of section 60 of the Act;
- B. On 19 September 2017 Ofcom published a notification in accordance with section 60(3) of the Act of proposals to modify the provisions of the Numbering Plan ('the Notification');
- C. A copy of the Notification was sent to the Secretary of State;
- D. In the Notification and the accompanying consultation document Ofcom invited representations about any of the proposals therein by 14 November 2017;
- E. By virtue of section 60(5) of the Act, Ofcom may give effect to the proposals set out in the Notification, with or without modification, only if:
 - they have considered every representation about the proposals that is made to them within the period specified in the Notification; and
 - they have had regard to every international obligation of the United Kingdom (if any) which has been notified to them for this purpose by the Secretary of State;
- F. Ofcom received 16 responses to the Notification and have considered every representation made to them in respect of the proposals set out in the Notification and the accompanying consultation document. The Secretary of State has not notified Ofcom of any international obligation of the United Kingdom for this purpose.

THEREFORE –

1. Ofcom, in accordance with sections 56(2) and 60 of the Act, hereby make the modification to the provisions of the Numbering Plan set out in the Schedule to take effect immediately.
2. Ofcom's reasons for making the modification and the effect of the modification are set out in the accompanying statement.

3. Ofcom are satisfied that the modification complies with the requirements of section 60(2) of the Act.
4. In making the modification, Ofcom have considered and acted in accordance with their general duty as to telephone numbering functions in section 63 of the Act, their general duties under section 3 of the Act and the six Community requirements in section 4 of the Act.
5. In this Notification:
 - a) “**the Act**” means the Communications Act 2003;
 - b) “**Ofcom**” means the Office of Communications; and
 - c) “**Numbering Plan**” means the National Telephone Numbering Plan published by Ofcom pursuant to section 56(1) of the Act, and amended from time to time.
6. Words or expressions shall have the meaning assigned to them in this Notification, and otherwise any word or expression shall have the same meaning as it has in the Act.
7. For the purposes of interpreting this Notification: (i) headings and titles shall be disregarded; and (ii) the Interpretation Act 1978 shall apply as if this Notification were an Act of Parliament.
8. The Schedule to this Notification shall form part of this Notification.



Brian Potterill

Competition Policy Director

A person authorised by Ofcom under paragraph 18 of the Schedule to the Office of Communications Act 2002.

26 April 2018

SCHEDULE

The following text marked in bold shall be inserted in the Section ‘Other Network Codes’ in Part A3: Network Codes of the Numbering Plan.

A3: Network Codes	
Number(s)	Designation
Other Network Codes	
001 - 999 Public Communications Provider Identity (inclusive) 000 – 999 Switch Number (inclusive)	3-digit plus 3-digit Partial Calling Line Identity Codes
7000 to 7089 inclusive	4-digit Targeted Transit Codes
8000 to 8889 inclusive and 8900 to 8999 inclusive	4-digit Carrier Pre-Selection Codes
08979	10-digit Inserted Network Numbers for Calling Line Identification
089930 to 089999 inclusive	10-digit Inbound Routing Codes
4-digit numbers	X25 Data Network Identification Codes