

Requirements on Communications Providers in relation to Customer Line Identification display services and other related services

NICC Standards Limited

Michael Faraday House,
Six Hills Way,
Stevenage
SG1 2AY

Tel.: +44(0) 20 7036 3636

Registered in England and Wales under number 6613589

NOTICE OF COPYRIGHT AND LIABILITY

© 2015 **NICC Standards Limited**

The present document may be made available in more than one electronic version or in print. In any case of existing or perceived difference in contents between such versions, the reference version is the Portable Document Format (PDF). In case of dispute, the reference shall be that printing on NICC printers of the PDF version kept on a specific network drive within the NICC.

Users of the present document should be aware that the document may be subject to revision or change of status. Information on the current status of this and other NICC documents is available at:

<http://www.niccstandards.org.uk/publications/index.cfm>

If you find errors in the present document, please send your comments to:

<mailto:help@niccstandards.org.uk>

Copyright

All right, title and interest in this document are owned by NICC Standards Limited ("NICC") and/or the contributors to the document (unless otherwise indicated that copyright is owned or shared with a third party). Such title and interest is protected by United Kingdom copyright laws and international treaty provisions.

The contents of the document are believed to be accurate at the time of publishing, but no representation or warranty is given as to their accuracy, completeness or correctness. You may freely download, copy, store or distribute this document provided it is not modified in any way and it includes this copyright and liability statement.

You may not modify the contents of this document. You may produce a derived copyright work based on this document provided that you clearly indicate that it was created by yourself and that it was derived from this document and provided further that you ensure that any risk of confusion with this document is avoided.

Liability

Whilst every care has been taken in the preparation and publication of this document, neither NICC, nor any working group, committee, member, director, officer, agent, consultant or adviser of or to, or any person acting on behalf of NICC, nor any member of any such working group or committee, nor the companies, entities or organisations they represent, nor any other person contributing to the contents of this document (together the "Generators") accepts liability for any loss or damage whatsoever which may arise from the use of or reliance on the information contained in this document or from any errors or omissions, typographical or otherwise in the contents.

Nothing in this document constitutes advice. Nor does the transmission, downloading or sending of this document create any contractual relationship. In particular no licence is granted under any intellectual property right (including trade and service mark rights) save for the above licence to download copy, store and distribute this document and to produce derived copyright works.

The liability and responsibility for implementations based on this document rests with the implementer, and not with any of the Generators. If you implement any of the contents of this document, you agree to indemnify and hold harmless each Generator in any jurisdiction against any claims and legal proceedings alleging that the use of the contents by you or on your behalf infringes any legal or other right of any of the Generators or any third party.

None of the Generators accepts any liability whatsoever for any direct, indirect or consequential loss or damage arising in any way from any use of or reliance on the contents of this document for any purpose.

The NICC Standards Web site contains the definitive information on the [IPR Policy and Anti-trust Compliance Policy](#)

If you have any comments concerning the accuracy of the contents of this document, please write to:

The Technical Secretary, NICC Standards Ltd.,

Michael Faraday House,
Six Dials Way,
Stevenage
SG1 2AY

Contents

Intellectual Property Rights	4
Foreword	4
1 Scope.....	5
2 Normative References	6
3 Definitions and abbreviations.....	6
3.1 Definitions	6
3.2 Abbreviations.....	8
4 Principles for the use of Customer Line Identities.....	9
5 Customer Line Identities	9
5.1 Background.....	9
5.2 Network Number	10
5.3 Presentation Number.....	10
5.4 Classification of customer line information	11
5.5 Usage of Customer Line Identification by Customer Premises Equipment.....	12
6 Rules relating to Calling Line Identification	12
6.1 Responsibilities of the Originating Network with respect to CLI	12
6.2 Responsibilities of the Terminating Network with respect to CLI	14
6.3 Responsibilities of Transit Networks with respect to CLI	15
6.4 Responsibilities of networks providing additional services with respect to CLI	15
6.5 Responsibilities of networks interconnecting with networks not covered by this specification with respect to CLI	16
6.6 Responsibilities of networks performing interworking between signalling systems with respect to CLI.....	17
7. Rules relating to Connected Line Identification	17
7.1 Responsibilities of the Terminating Network with respect to COL	18
7.2 Responsibilities of the Originating Network with respect to COL.....	19
7.3 Responsibilities of Transit Networks with respect to COL.....	20
7.4 Responsibilities of networks providing additional services with respect to COL.....	20
7.5 Responsibilities of networks interconnecting with networks not covered by this specification with respect to COL.....	21
7.6 Responsibilities of networks performing interworking between signalling systems with respect to COL	21
8 Signalling format of customer line information	22
9 Usage of customer line information for network operation	22
Annex A (Informative): Advice to CPE manufacturers of Automatic Call Reject equipment concerning CLI	23
Annex B (Normative): Rule NC 1a (interim arrangements)	24
History.....	25

Intellectual Property Rights

IPRs essential or potentially essential to the present document may have been declared to NICC. Pursuant to the [NICC IPR Policy](#), no investigation, including IPR searches, has been carried out by NICC. No guarantee can be given as to the existence of other IPRs which are, or may be, or may become, essential to the present document.

Foreword

This NICC Document (ND) has been produced by NICC CLI TG.

1 Scope

The Ofcom CLI Guidelines [1] define the requirements on UK Communications Providers for the provision of features that utilise customer line identification information.

The purpose of this document is to specify the rules that must apply when interconnection is made between UK Communication Providers for the purpose of delivering customer identity related services, in order to comply with the Ofcom CLI Guidelines [1]. It sets out the responsibilities of Communications Providers in relation to customer line identity information in connection with the provision of display or related services. In particular it covers their responsibilities in relation to:

- the origination of customer line identity information,
- the transmission across networks of such information, and
- the delivery to an access of customer line identity information or the reason for its absence.

The rules also enable the tracing of calls through the UK network using customer line identity information.

In this context, the term customer line identification information includes both calling line identification information and connected line identification information.

The document also provides guidance to manufacturers of Customer Premises Equipment (CPE) wishing to implement automatic call reject equipment which is intended to work based upon the presence of calling customer identification, or reasons for absence of that information.

All calls originating or terminating within the UK are within scope, but transit calls that neither originate nor terminate in the UK are out of scope. Further, the customer identification information associated with Short Message Service (SMS) or services such as e-mail or instant messaging is out of scope. However, all methods of delivery of customer line identification information for calls are within scope, including delivery of this information independently from the call e.g. via SMS and email.

If this document conflicts with either UK or EU legislation then that legislation shall take precedence.

2 Normative References

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For non-specific references, the latest edition of the referenced document (including any amendments) applies.

[1] Ofcom CLI guidelines; Guidelines for the provision of Calling Line Identification Facilities and other related services over Electronic Communications Networks.
<http://stakeholders.ofcom.org.uk/telecoms/policy/calling-line-id/caller-line-id/>

[2] ITU-T Recommendation E.164 (05/97) “The international public telecommunication numbering plan”

[3] Communications Act 2003;
<http://www.legislation.gov.uk/ukpga/2003/21/contents>

[4] ND1007 ISDN User Part (ISUP)

[5] ND1006 Interconnect User Part (IUP)

[6] ND1035 SIP Network to Network Interface Signalling

[7] ND1027 UK BICC for use between PLMNs

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the following terms and definitions apply:

Anonymous Call Rejection : An action taken by the Terminating Network to reject a call for which the CLI has been classified as CLI restricted.

Call : A connection established by means of an Electronic Communications Network allowing two-way communication in real time.

Calling Line Identity/Identification: A telephone number representing the calling party. The CLI may be a Network Number or a Presentation Number.

CLI Available : See paragraph 5.4

CLI Display Service : The delivery of information to the called party that allows them to be informed of the calling party’s line identity. This could be in the form of information that is displayed, recorded, interpreted by a database or provided via an audio message or by any other means.

CLI Restricted: See paragraph 5.4

CLI Restriction Service : A service which allows the calling party to request that their line Identity is not presented to the called party.

CLI Unavailable: See paragraph 5.4

COL Available: See paragraph 5.4

COL Display Service: The delivery of information to the calling party that allows them to be informed of the called party's line identity. This could be in the form of information that is displayed, recorded, interpreted by a database or provided via an audio message or by any other means.

COL Restricted: See paragraph 5.4.

COL Restriction Service : A service which allows the called party to request that their line identity is not presented to the calling party.

COL Unavailable: See paragraph 5.4

Communications Provider: A person or organisation that operates a Public Electronic Communications Network or provides a Public Electronic Communications Service.

Connected Line Identity/Identification: A telephone number representing the called party. The COL may be a Network Number or a Presentation Number.

Customer Line Identity: This encompasses both CLI and COL information.

Network Number: The digits that comprise a unique E.164 [2] number that unambiguously identifies the point of ingress of the call to a Public Electronic Communications Network. See paragraph 5.2.

Network Termination Point: The physical point at which a Subscriber is provided with access to a Public Electronic Communications Network and which may consist of one or more lines.

Originating Network: The Public Electronic Communications Network to which the customer that originates the call is directly connected.

Presentation Number: A number nominated or provided by a subscriber to be used for Display Services and can be used to make a return or subsequent call. See paragraph 5.3.

Public Electronic Communication Network: Public network as defined in the Communications Act 2003 [3].

Public Electronic Communication Service: Public service as defined in the Communications Act 2003 [3].

Restricted by Network: The condition in which the CLI information is not to be presented or is not available for presentation for reasons that are network related and outside the control of the originating customer.

Restricted by User: The condition in which the originating/terminating customer has requested that the CLI or COL information is not to be presented.

Screened / Screening:

A network provided function to ensure that a number provided across a customer interface and which is to be used as a CLI meets the requirements of authenticity set out in the Ofcom CLI Guidelines [1].

Special Arrangement: A contractual arrangement between the customer and Communications Provider under which the customer undertakes to provide only Presentation Number CLIs and COLs which conform to the Ofcom CLI Guidelines [1].

Subscriber: Any person, company or cooperative that comprises a legal entity, that is party to a contract with a provider of Public Electronic Communications Services for the supply of such services.

Terminating Network: The Public Electronic Communications Network to which the customer who receives a call is directly connected.

Transit Network: A Public Electronic Communications Network through which a call leg passes, but which is neither the Originating Network nor the Terminating Network for that call.

3.2 Abbreviations

ACR	Anonymous Call Rejection
BICC	Bearer Independent Call Control
CLI	Calling Line Identity
COL	Connected Line Identity
CP	Communications Provider
CPE	Customer Premises Equipment
EU	European Union
ISDN	Integrated Services Digital Network
ISUP	ISDN User Part
ITU-T	International Telecommunications Union - Telecommunications Standardisation Sector
IUP	Interconnect User Part
NNI	Network to Network Interface
NTP	Network Termination Point
PBX	Private Branch Exchange
PECN	Public Electronic Communications Network
PLMN	Public Land Mobile Network
PN	Presentation Number
SIP	Session Initiation Protocol
SMS	Short Message Service
UK	United Kingdom of Great Britain and Northern Ireland

4 Principles for the use of Customer Line Identities

The cardinal principles for the use of Customer Line Identities are:

- **Privacy:** Customers who wish to prevent the display of their number should always be able to do so using a simple means and be confident that their wishes will be respected by all parties in a call;
- **Authenticity:** Customer Line Identities should always represent the correct identity of the customer's access to the network or the number to which it is desired that return or subsequent calls be made, or both;
- **Integrity:** Customer Line Identities and associated privacy markings should be respected and maintained by all CPs in the call connection.

The intent of the rules set out in the remainder of this document is to ensure these cardinal principles are achieved.

5 Customer Line Identities

5.1 Background

The Calling Line Identity (CLI) information comprises the CLI itself, and the associated classification which governs its release to end-users. Reference to the CLI itself can mean the Network Number or Presentation Number.

Similarly, Connected Line Identity (COL) information comprises both the COL itself and associated classification. Reference to the COL itself can mean the Network Number or Presentation Number.

The remainder of this section sets out the characteristics of Network and Presentation Numbers, and classification information.

5.2 Network Number

The Network Number is a unique E.164 number [1] that identifies unambiguously the origin (CLI) or destination (COL) of the call. It must represent:

- the fixed access ingress to, or egress from, a Public Electronic Communication Network (PECN), i.e. the Network Termination Point (NTP); or
- a subscriber or terminal/telephone that has non-fixed access to a PECN, i.e. the line identity that has been allocated to an individual subscription or terminal/telephone with a non-fixed access to the PECN; or
- in the case of CLI, the first known UK PECN (or node within that PECN) in the call path.

The Network Number must not be a number that connects to a Premium Rate Service prefixed 09, or to a revenue sharing number that generates an excessive or unexpected call charge.

Note :

1. The Network Number may also be known as administration number, electric number or billing number.
2. The requirement for the Network Number to unambiguously identify the origin (CLI) or destination (COL) of the call means that the same Network Number cannot be used on multiple PECNs.

Provision and carriage of a Network Number CLI is mandatory.

5.3 Presentation Number

The Presentation Number CLI is designed to be received by the recipient of the call and used for identifying the caller and for returning a call. Similarly the Presentation Number COL is designed to be received by the originator of the call. Although a Presentation Number will not necessarily identify a call's point of ingress/egress of a PECN it may well carry more useful information for the customer. According to the Ofcom CLI Guidelines [1], the requirements of a Presentation Number are that it:

- must be a number that when dialled back results in a call that can be answered;
- must be allocated to the customer or if allocated to a third party, only used with their permission;
- must not be a number that connects to a Premium Rate Service prefixed 09, or to a revenue sharing number that generates an excessive or unexpected call charge.
- must be supported by an underlying Network Number.

A Presentation Number may be a number that has been received from the public network and passed back to the public network unchanged, e.g. for a call diverted by a Private Branch Exchange (PBX).

It is required that the Communications Provider (CP) providing a Presentation Number service has the responsibility to ensure that the above four points are enforced either by the functions of the network or by contract between the CP and the customer.

In particular the CP has the following responsibilities:

- (a) to correctly datafill the Presentation Number (where applicable)
- (b) to obtain the following contractual confirmation from the Presentation Number applicant prior to provision of Presentation Number service (see Note 1):
 - (i) confirmation that the number requested for use as a Presentation Number is allocated to the applicant, or company the applicant is representing, and that he does not require the permission of anyone else in relation to that number, or
 - (ii) confirmation that where the requested Presentation Number is not allocated to the applicant, or company the applicant is representing, that consent from the allocated owner for its use as a Presentation Number has been obtained and that this consent has not been withdrawn, or will be obtained (see Note 2)
 - (iii) confirmation that the requested Presentation Number is a number that is allocated to an actual customer, is in use, and that calls to that number will be connected to a terminal capable of receiving calls, and
 - (iv) agreement that the CP will be informed forthwith if any of the information stated above ceases to be correct, and
 - (v) acknowledgement of the right of the CP to suspend/withdraw the use of the 'Presentation Number service' if it is subsequently found that the information supplied was, or has become, inaccurate, or the Presentation Number is being misused, and
 - (vi) confirmation of the applicant's understanding that the Presentation Number must not be a number that connects to a revenue sharing number that generates an excessive or unexpected call charge.

Notes :

- 1: Acceptance of the material provided constitutes a Special Arrangement
- 2: Where the Presentation Number is of Type 4[1], the consent may be implied via the Presentation Number of the calling party (for CLI) / called party (for COL) not having been Restricted by User.

5.4 Classification of customer line information

For display purposes customer line information can have one of three classifications:

- 'CLI/COL Available' - the classification of the CLI/COL in which the CLI/COL can be used for CLI/COL Display Service.
- 'CLI/COL Unavailable' - the classification of the CLI/COL meaning it is not present, or in the case of CLI has been Restricted by Network.
- 'CLI/COL Restricted' - the classification of the CLI/COL meaning it has been Restricted by User.

Notes :

- 1: The classification 'CLI/COL Restricted' is also known as 'CLI/COL withheld'.
- 2: In some signalling systems, a CLI/COL classification can be received without an accompanying CLI/COL

The Network Number may be classified as 'CLI/COL Available', 'CLI/COL Unavailable' or 'CLI/COL Restricted', and Presentation Number may be classified as 'CLI/COL Available' or 'CLI/COL Restricted'.

5.5 Usage of Customer Line Identification by Customer Premises Equipment

Customer Premises Equipment (CPE) may provide functionality to reject calls based on the CLI being restricted. Annex A provides guidance to manufacturers of such equipment.

6 Rules relating to Calling Line Identification

This section describes the rules for handling CLIs grouped by:

- Originating Networks
- Terminating Networks
- Transit Networks
- Networks providing additional services
- Networks interconnecting with networks not covered by this specification
- Networks performing interworking of CLIs between signalling systems

Note: All types of networks can be signalling interworking networks

6.1 Responsibilities of the Originating Network with respect to CLI

It is the responsibility of the Originating Network to ensure that CLI information is populated correctly. The following rules shall apply:

RULE CLI ORIG 1 - Population of CLI information

Subject to the Ofcom CLI Guidelines [1], the Originating Network shall ensure that the customer's wishes with respect to the privacy marking of their CLI are respected.

RULE CLI ORIG 2 - Network Number

A Network Number must be provided for all calls. The Network Number shall be populated by the Originating Network, unless the customer access provides a number which is intended to be used as a Network Number and this number is successfully Screened by the Originating Network.

Note : The intention that the number be used as a Network Number will be indicated by the access signalling.

RULE CLI ORIG 3 - Presentation Number

The presence of a Presentation Number is optional, but where it is used the conditions of paragraph 5.3 shall be met. If the caller requires usage of a Presentation Number, it shall be populated according to the following table;

Table 6.1/1

Was a number intended to be used as Presentation Number supplied on the access?	Network Screening of number	Presentation Number	Presentation Number Type according to Ofcom CLI Guidelines [1]
No	N/A	Network populated PN sent	Type 1
Yes	Successful	User populated PN sent	Type 2
Yes	Unsuccessful	No PN sent or optionally a Network populated PN sent.	N/A or optionally Type 1.
Yes	Not carried out (Note)	User populated PN sent	Type 3, 4 or 5
Note : Also known as "Special Arrangement". In order to comply with the Ofcom CLI Guidelines [1], this configuration must be accompanied by a contractual agreement between the originating customer and the CP.			

RULE CLI ORIG 4 - Classification of CLIs

The Originating Network shall set the classification of CLIs as follows;

Table 6.1/2

	Classification of Network Number	Classification of Presentation Number
CLI Restriction Service not invoked, PN not provided	'CLI Available'	Not applicable
CLI Restriction Service not invoked, PN provided	'CLI Available' (Note)	'CLI Available'
CLI Restriction Service invoked, PN provided	'CLI Restricted'	'CLI Restricted'
CLI Restriction Service invoked, PN not provided	'CLI Restricted'	Not applicable
Note – The Originating Network may optionally classify the Network Number as either 'CLI Restricted' or 'CLI Unavailable'.		

RULE CLI ORIG 5 - CLI format in signalling systems

The number format within the CLI information shall be in accordance with the rules for use of the protocol in which the information is being carried; see Section 8.

RULE CLI ORIG 6 - Per call invocation of CLI Restriction Service

Calls dialled with the 141 prefix shall result in the CLI being restricted. If the Originating Network does not support CLI Restriction Service using the code 141, then the call shall be routed to a non-chargeable announcement, telling the customer how to restrict their CLI, or to another call failure condition.

Calls using standardised mechanisms of invoking CLI Restriction Service should result in the CLI being classified as CLI Restricted. Where the Originating Network does not support such standardised mechanisms, then calls should similarly be routed to a non-chargeable announcement or failed.

RULE CLI ORIG 7 - Per call override of CLI Restriction Service

Calls dialled with the 1470 prefix shall result in the CLI not being restricted. If the Originating Network does not support this, then the call shall be routed to a non-chargeable announcement, telling the customer how to release their CLI, or to another call failure condition.

Calls using standardised mechanisms of overriding CLI Restriction Service should result in the CLI being classified as CLI Available. Where the Originating Network does not support such standardised mechanisms, then calls should similarly be routed to a non-chargeable announcement or failed.

6.2 Responsibilities of the Terminating Network with respect to CLI

It is the responsibility of the Terminating Network to ensure that the CLI Display Service uses the correct CLI information, taking into account the CLI classifications. The following rules shall apply:

RULE CLI TERM 1 - Presentation information

Where Presentation Number CLI information is provided then this shall be used for all CLI Display Services. The Network Number CLI information shall only be used for CLI Display Purposes where no Presentation Number CLI information is provided, or for the provision of a two number delivery service.

RULE CLI TERM 2 - Display rules

Where the Terminating Network supports a CLI Display Service the information provided to the called customer's access must adhere to the following:

Table 6.2/1

Classification of CLI	Information at access (Note 1)
'CLI Restricted'	CLI Restriction indication and no calling number
'CLI Unavailable'	CLI Unavailable indication and no calling number (Note 2)
'CLI Available'	calling number
Note 1: This specification does not determine how the indicators should be displayed to an end user. Note 2: The information at the access for "Unavailable" might be a null data set. The essential factor is that it can be distinguished in some way from the "Restricted" indicator.	

RULE CLI TERM 3 - Anonymous Call Rejection

Where a Terminating Network provides Anonymous Call Rejection, this service shall operate in such a way as to reject calls only on the basis that the CLI which would otherwise be displayed is classified "CLI Restricted".

RULE CLI TERM 4 - Deletion of stored information.

Where a Terminating Network provides a service which stores a CLI for subsequent retrieval by the called customer (e.g. by dialling 1471), that customer must also be provided with a simple means (e.g. by dialling 1475) of deleting the received CLI from the network store.

RULE CLI TERM 5 - Diversion / Forwarding

Where a Terminating Network provides the capability for calls to be diverted to another destination, it shall provide the original caller's CLI information without modification. In addition, a line identity that represents the identity of the line from which the call was diverted shall be provided; this shall have the characteristics of a Network Number and the rule set out in RULE CLI ORIG 2 shall apply. The Terminating Network may also provide an additional line identity having the characteristics equivalent to those of a Presentation Number for the diverting line, in which case the rule set out in RULE CLI ORIG 3 shall apply.

Notes:

- 1 – This capability may also be referred to as call forwarding or call redirection.
- 2 – The provisions of this rule apply only where the Terminating Network provides the capability, i.e. do not apply where diverting point for the call is the CPE.

RULE CLI TERM 6 – End users without CLI Display Service

Where the called party has exercised their right to not receive CLI Display Service, the Terminating Network shall not pass any CLI information to that called party.

6.3 Responsibilities of Transit Networks with respect to CLI

Transit Networks are responsible for ensuring that CLI information is passed through their networks unchanged.

RULE CLI TRAN 1 - Signalling transparency

Unless it is providing additional services, a Transit Network shall ensure that the CLI information, including associated classifications, does not alter from the point of entry to the point of exit of its network.

6.4 Responsibilities of networks providing additional services with respect to CLI

A network that is not the Originating Network can also offer a CLI Restriction Service, or other CLI-related services, if it wishes. The method by which these services are offered is determined by the network providing additional services. A network offering such services takes on the responsibilities of an Originating Network in respect of the classification of the CLI information if its customers activate this service. Such a scenario could apply for example where an intermediate network forwards a personal number on a charge card call or indirect access call.

RULE CLI ADD 1 - Additional services.

A network offering additional CLI Restriction Services, or other CLI related services, must ensure that CLI information on calls follows the rules with which an Originating Network must comply, see section 6.1.

6.5 Responsibilities of networks interconnecting with networks not covered by this specification with respect to CLI

On calls to or from networks not covered by this specification (e.g. international calls) the following rules apply.

RULE CLI NC 1 - Calls routed from networks not covered by this specification

On calls received from networks not covered by this specification the CLI information shall be treated by the receiving network as follows:

- A. When the received Network Number is considered reliable, then it shall be forwarded together with any associated classification. If the received Presentation Number is classified as 'CLI Restricted', then the Network Number classification should be modified to 'CLI Restricted'.

In the case that the Network Number is classified as 'CLI Unavailable' and the signalling system is not capable of carrying this classification, then the Network Number shall be set to a number from a range allocated to the network receiving the call, shall be classified as 'CLI Available', and the receiving network shall provide a service whereby return calls to that number are routed to a non-chargeable explanatory announcement.

- B. 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.
- II. The classification of the Network Number shall be set, in order of priority:
 1. To 'CLI Restricted' if a Presentation Number or Network Number classification of 'CLI Restricted' was received, otherwise
 2. To 'CLI Unavailable' if the signalling system is capable, otherwise
 3. To 'CLI Available' and the receiving network shall provide a service whereby return calls made to the inserted Network Number are routed to a non-chargeable explanatory announcement.

- C. A Presentation Number shall not be passed unless a Network Number is passed. When a Presentation Number is received in the incoming signalling system and is considered reliable, it shall be forwarded as the Presentation Number, with the associated received classification. If the received Network Number is considered unreliable, then the Presentation Number should not be forwarded.

It is an individual CP matter to determine the criteria for assessing the reliability of CLI information, for example carried out on a call-by-call or per-ingress basis

It is acknowledged that signalling system and platform developments will be required to fulfil Rule CLI NC 1. Therefore, for an interim period, compliance with Rule CLI NC 1a as set out in Annex B will be considered sufficient. Annex B will be removed from a subsequent version of this specification; NICC will provide at least 12 months notice of this revision.

RULE CLI NC 2 - Calls routed to networks not covered by this specification

On calls handed over to networks not covered by this specification, where the CLI information is classified as 'CLI Restricted' or 'CLI Unavailable', the CLI (and, if appropriate to the signalling system, the classifications) shall be deleted before the calls are sent to such networks, unless it is known that the subsequent networks will act according to the classification.

6.6 Responsibilities of networks performing interworking between signalling systems with respect to CLI

Interworking between signalling systems is described in the appropriate NICC specifications. The objective of this set of rules is that all CLI information (including the CLI itself, and classification) will be retained.

RULE CLI IW 1 - Preservation of CLI information

Except when section 6.5 applies, when a network converts between two signalling systems there shall be no loss of CLI information, including classification information.

RULE CLI IW 2 - Formatting of CLI information

The network shall format the CLI information in a manner appropriate to the outgoing signalling system, see Section 8.

7. Rules relating to Connected Line Identification

At the time of publication of this document, there is no regulatory requirement to support COL. However, this section describes the rules for handling Connected Line Identity where the capability is supported.

This section describes the rules for handling COLs grouped by:

- Originating Networks
- Terminating Networks
- Transit Networks
- Networks providing additional services
- Networks interconnecting with networks not covered by this specification
- Networks performing interworking of COLs between signalling systems

Note: All types of networks can be signalling interworking networks

7.1 Responsibilities of the Terminating Network with respect to COL

It is the responsibility of the Terminating Network to ensure that COL information is properly populated. The following rules shall apply:

RULE COL TERM 1 - General

Subject to the Ofcom CLI Guidelines [1] the Terminating Network shall ensure that the customer's wishes with respect to the privacy marking of their COL are respected.

RULE COL TERM 2 - Network Number

The Network Number COL should be populated by the Terminating Network, unless the customer access provides a number which is intended to be used as a Network Number and this number is successfully Screened by the Terminating Network.

Note : The intention that the number be used as a Network Number will be indicated by the access signalling

RULE COL TERM 3 - Presentation Number

If the called party requires usage of a Presentation Number the conditions of paragraph 5.3 shall be met and it shall be populated according to the following table;

Table 7.1/1

Was a number intended to be used as Presentation Number supplied on the access?	Network Screening of number	Presentation Number
No	N/A	No PN sent or optionally a Network populated PN sent.
Yes	Successful	User populated PN sent
Yes	Unsuccessful	No PN sent or optionally a Network populated PN sent.
Yes	Not carried out	User populated PN sent

RULE COL TERM 4 - Classification of COLs

The Terminating Network shall set the Classification of COLs as follows;

Table 7.1/2

	Classification of Network Number	Classification of Presentation Number
COL Restriction Service not invoked, PN not provided	'COL Available'	Not applicable
COL Restriction Service not invoked, PN provided	'COL Available'	'COL Available'
COL Restriction Service invoked, PN provided	'COL Restricted'	'COL Restricted'
COL Restriction Service invoked, PN not provided	'COL Restricted'	Not applicable

RULE COL TERM 5 - COL format in signalling systems

The number format within the COL information shall be in accordance with the rules for use of the protocol in which the information is being carried; see Section 8.

RULE COL TERM 6 - Per call invocation of COL Restriction Service

For calls to customers where the default classification is COL Available, then it shall be possible for the connected party to invoke the COL Restriction Service when answering the call.

RULE COL TERM 7 - Per call overriding of COL Restriction Service

For calls to customers where the default classification is COL Restricted, then it shall be possible for the COL Restriction Service to be overridden by the connected party when answering the call.

7.2 Responsibilities of the Originating Network with respect to COL

It is the responsibility of the Originating Network to ensure that the COL Display Service uses the correct COL information taking into account the COL classifications. The following rules shall apply:

RULE COL ORIG 1 - Presentation information

Where Presentation Number COL information is present then this shall be used for all COL Display Services. The Network Number shall only be used where no Presentation Number is available or for the provision of a two number display service.

RULE COL ORIG 2 - Display rules

Where the Originating Network supports a COL Display Service the information provided to the called customer's access must adhere to the following;

Table 7.2/1

Classification of COL	Information at access (Note 1)
'COL Restricted'	COL Restriction indication and no connected number
'COL Unavailable'	COL Unavailable indication and no connected number (Note 2)
'COL Available'	connected number
Note 1: This specification does not determine how the indicators should be displayed to an end user.	
Note 2: The information at the access for "Unavailable" might be a null data set. The essential factor is that it can be distinguished in some way from the "Restricted" indicator.	

7.3 Responsibilities of Transit Networks with respect to COL

Transit Networks are responsible for ensuring that COL information is passed through their networks unchanged.

RULE COL TRAN 1 - Signalling transparency

Unless it is providing additional services a Transit Networks shall ensure that the COL information, including associated classifications, does not alter from the point of entry to the point of exit of its network.

7.4 Responsibilities of networks providing additional services with respect to COL

A network that is not the Terminating Network can also offer a COL Restriction Service, or other COL-related services, if it wishes. The method by which these services are offered is up to the network providing additional services. A network offering such services takes on the responsibilities of a Terminating Network in respect of the population and classification of the COL information if its customers activate this service. Such a scenario could apply for example where an intermediate network forwards a non-geographic number relating to the service provided.

RULE COL ADD 1 - Additional services.

A network offering additional COL Restriction Services, or other COL related services, must ensure that COL information on calls follows the rules for a Terminating Network.

7.5 Responsibilities of networks interconnecting with networks not covered by this specification with respect to COL

On calls to or from networks not covered by this specification (e.g. international calls) the following rules apply.

RULE COL NC 1 - Calls routed to networks not covered by this specification

On calls routed to networks not covered by this specification (e.g. international calls) the COL information received shall be treated by the interconnecting network as follows:

- A. When the COL received is considered reliable then it shall be passed together with any associated classification.
- B. When the COL received is considered unreliable nothing should be passed to the UK network.

It is an individual CP matter to determine the criteria for assessing the reliability of COL information.

RULE COL NC 2 - Calls received from networks not covered by this specification

On calls received from networks not covered by this specification, where the COL information from the termination is classified as 'COL Restricted' or 'COL Unavailable', the COL (and, if appropriate to the signalling system, the classifications) shall be deleted from the signalling sent to such networks, unless it is known that the networks not covered by this specification will act according to the classification.

7.6 Responsibilities of networks performing interworking between signalling systems with respect to COL

Interworking between signalling systems is described in the appropriate NICC specifications. The objective of this set of rules is that all COL information (including the COL itself, and classification) will be retained.

RULE COL IW 1 - Preservation of COL information

Except when section 7.5 applies when a network converts between two signalling systems there shall be no loss of COL information, including classification information.

RULE COL IW 2 - Formatting of COL information

The network shall format the COL information in a manner appropriate to the outgoing signalling system; see Section 8.

8 Signalling format of customer line information

The format of the number information within the customer line information shall be in accordance with the rules of the protocol in which the information is being carried. Consequently the formats used in the UK NNI are as follows

ISUP [4]

UK numbers shall be carried as “national (significant) number” i.e. they shall not include the UK country code 44. For example 1234567890.

Non-UK numbers shall be carried as “international number” i.e. they shall include the appropriate country code. For example 334321567890.

IUP [5]

UK numbers shall be carried as “national (significant) number” i.e they shall not include the UK country code 44. For example 1234567890.

Non-UK numbers shall be carried as “international number” i.e. they shall include the appropriate country code. For example 334321567890.

SIP-NNI (used for interconnect in the UK) [6]

All numbers shall be carried as international numbers, i.e. they shall include the appropriate country code preceded by +. For example +441234567890, +334321567890.

UK-BICC [7]

UK numbers shall be carried as “national (significant) number” i.e. they shall not include the UK country code 44. For example 1234567890.

Non-UK numbers shall be carried as “international number” i.e. they shall include the appropriate country code. For example 334321567890.

9 Usage of customer line information for network operation

The operation of this specification does not affect the ability of CPs to use received customer line identification data for purposes given in the Ofcom CLI Guidelines [1], to which CPs shall refer.

Annex A (Informative): Advice to CPE manufacturers of Automatic Call Reject equipment concerning CLI.

A.1 Introduction

It is important that a caller is aware that their call has been rejected due to them restricting their CLI (also known as withholding their CLI), in order that they can remake that call and not restrict their CLI if they so wish.

A.2 Requirement for Anonymous Call Rejection

Text from Ofcom CLI Guidelines [1]:

10.14.4 where CLI information is displayed prior to the establishment of a Call, End-Users must be able to reject incoming Calls where the caller has prevented the display of the originating telephone number in accordance with 10.14.1 above (as this right only operates in the context of telephone calls it may be implemented using a recorded voice message without the need for complex end-to-end interworking arrangements).

The implicit requirement here is for an announcement that tells the caller that their call has been rejected because they restricted their CLI. This gives the caller the opportunity to re-make the call and not restrict their CLI.

A.3 Advice For CPE manufacturers

The network based Anonymous Call Rejection (ACR) service generally plays an announcement advising the caller that their call has been rejected because they restricted their CLI. This gives the caller the opportunity to remake the call and release their CLI if they wish the call to be successful. This feature is important as many organisations such as hospitals, police, doctors surgeries etc. restrict their CLI routinely, but it could be vital that they are able to speak to someone whose line has the ACR service.

It is recommended that where CPE offers the capability to reject calls where the CLI is restricted, the CPE should have the capability to play the caller an announcement advising that the restricted CLI is the reason that their call has been rejected.

Annex B (Normative): Rule CLI NC 1a (interim arrangements)

To allow timely implementation of rules governing calls received from networks not covered by this specification, compliance with rule NC 1a as set out in this Annex will be considered sufficient. This Annex will be removed from a subsequent version of this specification; NICC will provide at least 12 months notice of this revision.

RULE CLI NC 1a - Calls routed from networks not covered by this specification

On calls received from networks not covered by this specification the CLI information shall be treated by the receiving network as follows:

- A. When the received Network Number is considered reliable, then it shall be forwarded together with any associated classification.

If the received Presentation Number is classified as ‘CLI Restricted’, then the Network Number classification should be modified to ‘CLI Restricted’.

In the case that the Network Number is classified as Unavailable and the signalling system is not capable of carrying this classification, then the Network Number shall be set to a number from a range allocated to the network receiving the call, shall be classified as Available, and the receiving network shall provide a service whereby return calls to that number are routed to a non-chargeable explanatory announcement.

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

- I. So long as it is possible to meet the classification requirements in (II), then the Network Number shall be set to a number from a range allocated to the network receiving the call. Where it is not possible to meet the classification requirements in (II), then any received Network Number and classification shall either be removed or passed unchanged.

- II. When a Network Number is set in (I), the classification of the Network Number shall be set, in order of priority:

1. To ‘CLI Restricted’ if a Presentation Number or Network Number classification of ‘CLI Restricted’ was received, otherwise
2. To ‘CLI Unavailable’ if the signalling system is capable, otherwise
3. To ‘CLI Available’ if a Presentation Number considered to be reliable was received, otherwise
4. To ‘CLI Available’, provided that the receiving network supports a service whereby return calls made to the inserted Network Number are routed to a non-chargeable explanatory announcement.

- C. A Presentation Number shall not be passed unless a Network Number is passed. When a Presentation Number is received in the incoming signalling system and is considered reliable, it shall be forwarded as the Presentation Number, with the associated received classification. If the received Network Number is considered unreliable, then the Presentation Number should not be forwarded.

History

Document history		
1	Sept 2004	Initial publication
2.1.1	May 2010	Restructure of document, review following experience of operation, notably to clarify that where Presentation Number is present, it should always be used for display purposes in preference to Network Number.
2.2.1	January 2011	Minor revision to reflect in rules CL1-1, CLI-13 that CLIs should be carried in the appropriate format.
3.1.1	August 2014	Revised to remove technology particular items and clarify CLI policy following nuisance call policy
3.2.1	March 2015	Updated to include revised NC-1 and Annex B (interim rule NC-1). Minor editorials made to improve readability of text