



Electronic Communications Committee (ECC)
within the European Conference of Postal and Telecommunications Administrations (CEPT)

ECC RECOMMENDATION (11)02

CALLING LINE IDENTIFICATION AND ORIGINATING IDENTIFICATION

Recommendation adopted by the Working Group Numbering and Networks (NaN)

INTRODUCTION

Calling Line Identification (CLI) can be understood as a set of parameters within telecommunications networks that provide users with capabilities of sending, receiving and displaying telephone numbers. The concept of Originating Identification (OI) provides users with similar kind of capabilities as the CLI, but the OI extends the traditional calling line identification to new networks, such as NGNs with identifiers other than E.164 numbers. In this Recommendation the term CLI is used alone when E.164 number usage is anticipated, otherwise the term OI/CLI is used.

Today CLI information is widely passed worldwide between operators and service providers to provide end users with number information, which the terminal equipment may use to display the number or name of the calling subscriber. Furthermore, the CLI information is used to call back, e.g. in a case of a missed call, to authenticate access to services such as a voice mail box, to trace the source of a malicious call, to access location databases to locate the caller to emergency services and route the call to its destination depending on the location or type of number (functionality e.g. in Intelligent Networks (IN) translation services). The list is not exhaustive.

There appear to be instances to use the CLI in a fraudulent way or to suppress the transmission of CLI for commercial or other reasons. Such practices have an unfavourable effect on services based on CLI.

The usage of OI/CLI information is based on trust, that all operators and service providers involved in handling the call and in particular the originating operators and service providers only allow the correct contents of parameters to be transferred in the networks. With a growth in the electronic communication features offered and an increasing number of interconnected networks of different types (e.g. IP based networks) handling calls there are increasing challenges to guarantee the correctness of the received OI/CLI and some scope for abusing the OI/CLI functionality. This Recommendation proposes measures to increase trust in the OI/CLI.

Increasing trust in OI/CLI is specifically important where the CLIs have historically been considered as reliable and as such are still being perceived so by the broad public. The alternative to this approach is only to raise awareness about the reduced reliability, but this undermines the value of the obligation in the EU Universal Service Directive to provide facility for end-users to send and receive CLIs. If CLIs cannot be trusted, this obligation becomes obsolete.

Communications today is more global than ever before and legislation within electronic communications vary hugely in different parts of the world. As calls pass country borders the transiting and terminating operators and service providers have very little or no means to verify correctness of electronic communications parameters received. Therefore, the correctness of various electronic communications parameters, such as CLI, depends mainly in the originating network.

“The European Conference of Postal and Telecommunications Administrations,

referring to

- a) the Directive 2006/24/EC of the European Parliament and of the Council of 15 March 2006 on the retention of data generated or processed in connection with the provision of publicly available electronic communications services or of public communications networks and amending Directive 2002/58/EC;
- b) the Directive 2009/136/EC of the European Parliament and of the Council of 25 November 2009 amending Directive 2002/22/EC on universal service and users’ rights relating to electronic communications networks and services – Article 29;
- c) the ECC Report 133 on Increasing Trust in Calling Line Identification and Originating Identification;
- d) the European Telecommunications Platform (ETP) Guidelines for Calling Line Identification (Issue 4, September 2002);
- e) the ITU-T Recommendation E.164 “The international public telecommunication numbering plan”;
- f) the ITU-T Recommendation E.157 “International Calling Party Number Delivery”;
- g) the ETSI Technical Specification TS 184011 “Requirements and usage of E.164 numbers in NGN (Next Generation Networks) and NGCN (Next Generation Corporate Networks)”;

considering

- h) that the usage of CLI is widely implemented throughout the CEPT countries;
- i) that other networks, such as internet protocol based networks, are seamlessly connected to traditional telecommunications networks, such as public switched telephone network (PSTN), integrated services digital network (ISDN) and public land mobile network (PLMN);
- j) that future networks need to have a certain level of trustworthiness regarding the correctness of various electronic communications parameters;
- k) that there appear to be instances to suppress the transmission of OI/CLI;
- l) that there appear to be instances to allow use of incorrect, false or unauthorized OI/CLI in public telecommunications networks;
- m) that the OI/CLI does not identify the calling party; it is rather an identifier of the subscription;

recommends

- 1) that national regulations/guidelines regarding the generating and handling of OI/CLI should be developed;
- 2) that all electronic communications operators and service providers, national and international, involved in an electronic communication service that uses an E.164 number or other originating identifier shall provide or transport and forward OI/CLI information adhering to ITU-T and/or ETSI related international standards;
- 3) that the interconnecting operators and service providers shall include the transfer of the proper OI/CLI information in the interconnection agreements according to the rules of the NRAs of the countries involved;
- 4) that the originating operator/service provider is responsible for the correctness of the OI/CLI (network provided OI/CLI or in the case of user provided OI/CLI, network verified OI/CLI);
- 5) that an operator/service provider sending or receiving electronic communications should not change the contents of the OI/CLI, if not specifically allowed in cases mentioned in regulations/standards (e.g. when sending the OI/CLI to the called party, appropriate prefixes can be added, for example in an international call, the prefix “00”, “+” or other nationally valid prefixes). However, an operator/service provider sending or receiving communications may have to change the content of an OI/CLI to convert a national significant number into the same number in an international E.164 format;
- 6) that the originating operator/service provider for an electronic communication service that uses an E.164 number or other identifiers, in the case of involvement of transit operators/service providers should include in their contractual agreements that the OI/CLI should not be unnecessarily modified in network-network interfaces until

reaching the destination network. Any such modification should be supported by ITU-T and/or ETSI international standards;

- 7) that it should be possible to return a call by using OI/CLI information presented to the called user. Therefore, OI/CLI numbers used in a VoIP to PSTN/ISDN interconnection with a VoIP provider without E.164 numbers should be marked as “presentation restricted” since no E.164 number of the subscription can be included¹;
- 8) that depending on bilateral/multi-lateral agreement or restrictions in cases of national legal and regulatory frameworks, the originating network may restrict OI/CLI information from being sent to the destination network when the OIR/CLIR supplementary service is applicable to prevent OI/CLI presentation to the destination subscriber in all cases; in this case the OI/CLI information sent across international boundaries shall always contain the restriction indicator and may also include the country code of the originating country, being marked in this case as an incomplete number in the international format;
- 9) that where a network operator/service provider accepts unscreened user-provided information into the public network for transfer and presentation to the called user as the OI/CLI, there should exist a written agreement (subject to national legislation) between the originating network operator/service provider and the calling subscriber which numbers could be used and which are not allowed;
- 10) that the OI/CLI may be marked as “presentation restricted” if the operator/service provider cannot assure that the information is valid according to the national regulations. In this case the OI/CLI information is not presented to the called party, unless the called party has the category to override the presentation restriction indication (e.g. police, emergency centre);
- 11) that the originating operator/service provider and the subscriber should only use an identifier/a number in the OI/CLI which has been (a) associated to the calling subscriber at the time of subscription by the operator/service provider; (b) agreed between them and (c) the calling subscriber has right to use;
- 12) that the originating operator/service provider shall enforce that fictitious/non-assigned identifiers/numbers are not passed through network as OI/CLI where information on such fictitious/non-assigned identifiers/numbers is available;
- 13) that premium rate numbers should be excluded as valid OI/CLI. The NRA decides what national number ranges could or could not be used as OI/CLI;
- 14) that if an originating party has ported his number, the original (ported) number shall be used as a OI/CLI;
- 15) that call set-up to parties with the category to override the presentation restriction indication (e.g. police, emergency centre) shall always carry the network validated OI/CLI, which could also be based on user provided information (“screened”), and, when available and allowed by national regulation, also the user provided (unscreened) information;
- 16) that the OI/CLI should not be used alone as an authorization tool for critical applications;
- 17) that the principles of these recommendations should also be applied, where relevant, in all electronic communications networks and for all electronic communication services (e.g. SMS) that make use of public numbering, naming and addressing resources.”

1. The [Recommend](#) 7 is valid although the ITU-T Recommendation E.157 clause 7.2.1.d) specifies that the number allocated to the server platform shall be included, even if this number cannot be called back.