

ETNO Expert Contribution commenting on Draft Recommendation e.cpnD

ITU COM2 – C118r1 – E

Study Group 2 - Contribution 118



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1 Introduction

ETNO has reviewed and considered the revised text on e.cpnD developed at the ITU T SG2 meetings in May and September 2008. This document is offered for consideration at the next ITU-T SG2, when the development of the draft recommendation is for further consideration.

ETNO is still uncertain as to whether the document should be approved in its current form and has a number of concerns as to the current text. ETNO believes that whilst the discussions at the May 2008 ITU T SG2 meeting resolved many issues, there are issues still remaining.

The first part of this document discusses general issues with the current version of E.CPND. The second part offers comments directly to the current text in revision marks. The third section provides a table that illustrates the questions that need answering to contribute to the resolution of the remaining issues.

2 General comments

Comment 1

A significant part of the text seems to be referring to two separate concepts:

1. the correctness of the format of the CLID: whether the structure complies with the E.164 structure.
2. the validity of the number which was used to populate the CLID: whether the entity which originally initiated the call is actually the legitimate assignee of that number

The draft recommendation as it stands is unclear as to whether it intends to cover the former, the latter, or both and in which contexts.

Comment 2

For item 2, it is also vague as to what instrument is used to achieve this purpose.

- If the draft recommendation defines *requirements* (the implementation of which may be still to be defined), the title and the text should make it specific.
- If it specifically defines the mechanisms that can be used assess a particular number in such a general context, it should be described in the document. (the text says "shall" but doesn't say how)

Comment 3

The scope of the document focuses on the relationship between the originating carrier and the "succeeding carrier". The delivery guidance in section 7 discusses the role of the terminating carrier as well. A clear choice must be made between these two options.

Comment 4

CLID is a term which is generally specific to SS7 protocols. It can be assumed that the guidance does not apply to IP-based network but the text is unspecific on this topic.

3 Specific Comments

Specific comments are included in the text of the draft recommendation that appears in Annex 1. These comments have been obtained by reviewing the text of the draft recommendation against the above general comments.

4 Tabular form of some issues

The following table is taken from Q.731 Clause 3 Calling Line Identification Presentation (TABLE 3-1/Q.731, Calling party number, codepoints)

Information provided by the access signalling system			Information transported by the network			
Calling party number	Numbering plan	Screening indicator	Calling party number	Numbering plan	Nature of address indicator	Screening indicator
None			Calling party number parameter			
			Default number	"E.164"	"national (significant) number"	"network provided"
			No generic number parameter indicating "additional calling party number" is sent			
Any number ^{a)}	Other than "E.164" or "unknown"		Calling party number parameter			
			Default number	"E.164"	"national (significant) number"	"network provided"
			No generic number parameter indicating "additional calling party number" is sent			
Any digit sequence conforming to E.164	"E.164" or "unknown"	"network provided" or "user provided, verified and passed"	Calling party number parameter			
			Number provided by the access signalling system	"E.164"	"national (significant) number" or "international number" as provided by the access signalling system	"network provided" or "user provided, verified and passed"
			No generic number parameter indicating "additional calling party number" is sent			
Any digit sequence conforming to E.164	"E.164" or "unknown"	"user provided, not verified" ^{b)}	Calling party number parameter			
			Default number	"E.164"	"national (significant) number"	"network provided"
			Generic number parameter for "additional calling party number"			
			Number provided by the access signalling system	"E.164"	"national (significant) number" or "international number" as provided by the access signalling system	"user provided, not verified" ^{b)}
<p>a) In this case, the calling party number received from the access signalling system shall be discarded, but the address presentation restricted indicator shall (as in all other cases) be set to the value as received from the access signalling system.</p> <p>b) As a national option, some networks may allow for the screening indicator "user provided, verified and failed". If this screening indicator is supported, then the originating local exchange shall treat this value in the same manner as the value "user provided, not verified".</p>						

For each of the states in the first column, and the various options that accrue, the question that needs to be answered is "What would the application of E.157 expect the action of the International Switch Operator to be?"

5 Conclusion

ETNO offers the above general comments and the detailed and specific comments in the attachment for consideration by ITU-T SG2 to show where further work is required on the current text. In addition ETNO has included a table from Q.731 that identifies the various states that can exist with CLI to be reviewed against the draft text of E.CPND/E.157 to understand how the concepts would apply in the circumstances.

ETNO submits this revised contribution in order to successfully progress this draft recommendation to an approved state.

International Calling Party Number Delivery

Summary

This recommendation describes the main characteristics of International calling party number delivery i.e., based on bilateral/multi-lateral agreement between operators in different countries¹, calling party numbers delivered across boundaries of countries. It clarifies the relationship between calling party number delivery and number identification supplementary service. It also provides guidance for the delivery of the calling party number across the boundaries of countries and the timing of the implementation (short term and long term), which are technology neutral.

Keywords

<Optional>

Introduction

Operators [entity(ies)] have developed, or are developing implementation of calling party number delivery between each others. Implementation of calling party number delivery utilizes the features, facilities and applications available in the national public networks and service offerings. It is usually guaranteed through the agreements with originating operators [entity(ies)] and might also be under some form of regulation by national Administrations. In this sense, it is a national matter. However, the delivery of calling party numbers can transcend national boundaries, in which case, it is not only a national matter, but involves more than one country. This Recommendation provides guidance for the delivery of calling party numbers across different countries that will enable operators enter into bilateral/multi-lateral agreement. It is called international calling party number delivery.

1 Scope

This Recommendation provides guidance for international calling party number delivery. The mechanism to assess the veracity of a particular calling party number (i.e., the international E.164 number) is out of the scope of this recommendation. Any agreement in countries is a national matter and is not considered.

¹ Whenever the term "country", "destination country" or "originating country" is used in this clause, it identifies a specific country, a group of countries in an integrated numbering plan or a specific geographical area.

2 References

The following ITU-T Recommendations and other references contain provisions, which, through reference in this text, constitute provisions of this Recommendation. At the time of publication, the editions indicated were valid. All Recommendations and other references are subject to revision; users of this Recommendation are therefore encouraged to investigate the possibility of applying the most recent edition of the Recommendations and other references listed below. A list of the currently valid ITU-T Recommendations is regularly published.

The reference to a document within this Recommendation does not give it, as a stand-alone document, the status of a Recommendation

- [1] ITU-T Recommendation Q.731 (03/93) *Stage 3 Description For Number Identification Supplementary Services Using Signalling System No. 7*
- [2] ITU-T Recommendation Q.731.7 (06/97) *Stage 3 description for number identification supplementary services using Signalling System No. 7: Malicious call identification (MCID)*
- [3] ITU-T Recommendation I.251.3 (rev.1) *Calling Line Identification Presentation*
- [4] ITU-T Recommendation I.251.4 (rev.1) *Calling Line Identification Restriction*
- [5] ITU-T Recommendation I.251.7 (rev.1) *Malicious Call Identification*
- [6] ETSI ETS 300 648 (March 1997) *Public Switched Telephone Network (PSTN); Calling Line Identification Presentation (CLIP) supplementary service; Service description*
- [7] ETSI ETS 300 649 (March 1997) *Public Switched Telephone Network (PSTN); Calling Line Identification Restriction (CLIR) supplementary service; Service description*
- [8] ETSI TS 100 514 V7.0.0 (1999-08) *Digital cellular telecommunications system (Phase 2+); Line identification Supplementary Services - Stage 1 (GSM 02.81 version 7.0.0 Release 1998)*
- [9] ETSI TS 122 081 V7.0.0 (2007-06) *Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); Line Identification supplementary services; Stage 1 (3GPP TS 22.081 version 7.0.0 Release 7)*
- [10] ITU-T Recommendation E.164 (02/2005), *The international public telecommunication numbering plan.*
- [11] ITU-T E.IDs-DEF (xx/2008), *Definitions of terms used for identifiers (names, numbers, addresses and other identifiers) for public telecommunication services and networks*

3 Definitions

3.1 Terms defined elsewhere:

This Recommendation uses the following terms defined elsewhere:

3.1.1 Country [ITU-T Supplement 3 to E.164]: A specific country, a group of countries in an integrated numbering plan or a specific geographical area.

3.1.2 Operator [E.212]: An entity providing public telecommunications networks or public telecommunication services.

3.1.3 Telephone number [E.101]: The number derived from the E.164 numbering plan, used by the calling party to establish a call to an end user or a service. The number may also be used for presentation services like Calling Line Identification (CLI) and Connected Line Identification Presentation (COLP) and may also be published in different directories and/or directory enquiry services.

3.2 Terms defined in this Recommendation

This Recommendation defines the following terms:

3.2.1 Calling Party Number: The telephone number of the originator of the call.

3.2.2 Indicating number: The telephone number used for selecting a trunk from a group of trunks.

3.2.3 International Calling Party Number Delivery: Calling party number delivery across boundaries of countries based on bilateral/multi-lateral agreement.

3.2.4 Valid calling party number: Through this calling party number, the corresponding subscriber/service can be connected or can be traced to the source.

4 Abbreviations and acronyms

This recommendation uses the following abbreviations and acronyms:

CC Country Code

CLI Calling Line Identification

CLIP Calling Line Identification Presentation

CLIR Calling Line Identification Restriction

MCID Malicious Call Identification

5 International calling party number delivery

International calling party number delivery is provided based on bilateral/multi-lateral agreement of operators in different countries and the calling party numbers are delivered across boundaries of countries.

Considering the complexity of the national and international telecommunication networks, in short term, the delivered calling party number shall be prefixed with country code to identify in which country the calls are originated before they are delivered from an originating country to a succeeding country .

As a long term solution, calling party numbers delivered across national boundaries shall comply with the guidance contained in this recommendation. In order to ensure that outcome, international operators may need to negotiate and make agreements with the originating operators [entity(ies)]. Cases where no such relationship between these parties exists are out of scope of this recommendation.

Comment: text is unclear as to what happens when no such relationship exists (which is the most common case). Assumption is that it is considered as out of scope for this recommendation.

6 Calling Party Number Delivery and Number Identification Supplementary Service

Calling party number delivery is the basis for tracing the originating parties of calls and providing number identification supplementary services such as CLIP, MCID, which are specified in ITU-T recommendation I.251 (for service) and Q.731 (for signalling) series. It is provided based on agreement between operators/involved entities, independently of the subscribers.

7 Delivery Guidance

The delivery of calling party numbers involves an originating network, a terminating network and a transit network if necessary. A calling party number may be provided by the originating network, transferred by the transit network(s) and received by the terminating network. For international calling party number delivery, only the calling party numbers delivered across boundaries of countries are considered which is shown in figure 1. For the purpose of this recommendation, the originating, transit and terminating networks are presented as one entity. In some national environment this may not be the case.

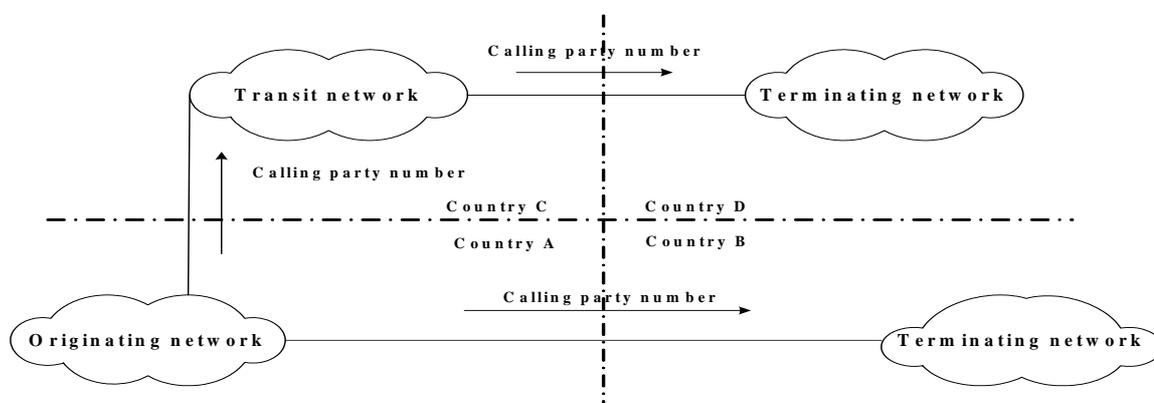


Figure1 International calling party number delivery

Operators in different countries may establish bilateral/multi-lateral agreements with regard to the provision of international calling party number delivery. The following sections provide guidance for international calling party number delivery. Considering the complexity of the national and international telecommunication networks, the guidance can be implemented based on a short term solution and a long term solution.

7.1 Short term solution

For international E.164 numbers for geographic areas, the delivered calling party numbers shall be prefixed with country codes to identify in which country the calls are

originated before they are delivered from an originating country to a succeeding country.

For all kinds of E.164 numbers, the calling party number sent from an originating (previous) country shall be transferred transparently to the destination (succeeding) country by a transit network.

Comment:

- These two sections (short term and long term) seem to contradict themselves. How can a number be prefixed with a country code (i.e. append a country code to the digit string) as described in section 1 while still be "transferred transparently". Either that or the first section would cover the case where a national carrier serves outgoing traffic with national CLIDs, while the second section refers to an international carrier providing the traffic with international CLIDs. Either way the nature of address of the CLID should be added in these sections for clarifying this possible contradiction.
- the text is unclear as to whether the removal of a CLID number that doesn't comply with the national numbering plan structure (and is therefore unusable by any party downstream), is an acceptable practice. This short term solution should be limited to addressing Nature of address to a normalization process of the CLI so that it is converted into international format
- the second section seems to prohibit the conversion of a national format into the international format which is a general and necessary practice between national ISUP and International ISUP (to mention only SS7). See also first remark.
- Further how is the migration from the short term to the long term envisaged?

7.2 Long term solution

Besides the guidance for short term, the following shall be noted when entering into the bi-lateral/multilateral negotiations.

7.2.1 General principles

a) For any party who does not have a telephone number and originates a call, the calling party number field in corresponding message shall be empty, e.g. if a call originating from the Internet and paid through a calling card, only the called telephone number is needed.

Comment: is an empty field preferable to a generic number? Due to service interaction issues, an empty field may have a detrimental impact on service delivery. This is generally the reason for populating a CLID for PC-to-Phone services.

b) Depending on bilateral/multi-lateral agreement, the originating network may restrict calling party number from being sent to the destination network when the CLIR supplementary service is applicable, except for emergency calls.

Comment: what kind of emergency calls are we referring to here in an international transit context: cross border arrangements for emergency services would not generate

transit through international transit networks. Also what about national data protection rights?

c) If the delivery of valid calling party numbers is not supported, the calling party number field in corresponding message shall be empty.

Comment: this point c) is differs from section 7.1 so presumably there is a reason for this new requirement, which should be clarified (or why the short term solution is different). Furthermore this seems more related to a national or access issue rather than to international transit.

Comment: what do we mean by "support the delivery of valid calling party numbers" How is it characterised? Ie to what extent is the number considered as trustworthy?:

- is the structure compliant with the national E.164 numbering plan?

- does it belong to a (valid) range which was assigned by the NRA?

- was the call set up by the actually assignee of that number

Also if the number field is filled, who would remove it from the message?

7.2.2 International E.164 number for Geographic areas

a) The format of International E.164 number for geographic areas

Country Code	+	National (Significant) Number
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b) In case of the originating party is a subscriber, the calling party number shall be as following,

i) Normal call

The calling party number delivered in a normal call shall be the number allocated to the subscriber by the operator.

ii) Call forwarding

If call forwarding has occurred, the calling party number delivered shall be the number of the originating party, not the original called number.

iii) Number portability

If an originating party has ported his/her number, the calling party number delivered shall be the ported number.

Comment: Could the above be clarified, is it related to a specific implementation of NP? A CLID is a CLID, the fact that the number is ported or not is irrelevant.

iv) PABX, branch office, private network and group telephone system

If a PABX, branch office, private network or group telephone system can not send calling party numbers, calling party numbers delivered shall be corresponding indicating numbers.

Comment: the meaning of the above is unclear.

c) For a call originated by a call centre, emergency service or public service platform, the calling party number delivered shall be the number allocated to the service [customer] by the administrator.

Comment: "emergency service", see comment above.

Which administrator?, and as long as the number is valid – is it sufficient to be just a number?

7.2.3 International E.164 number for global services

An international E.164 number for global services can present as a calling party number, where the format of the calling party number is recommended below:

Comment: it always 'can', presumably, but is it recommended?

$\boxed{\text{Country Code}} + \boxed{\text{Global Subscriber Number}}$

In this case, the calling party number shall be the number assigned by the director of TSB.

7.2.4 International E.164 number for Networks

An international E.164 number for Networks can present as a calling party number, where the format of the calling party number delivered across boundaries of countries in case of the involved call parties are not within the same network is recommended below:

$\boxed{\text{Country Code}} + \boxed{\text{Identification Code}} + \boxed{\text{Subscriber Number}}$

In this case, the Country Code and Identification Code shall be the number assigned by the director of TSB and the Subscriber number shall be the number assigned by the assignee of the CC+IC.

7.2.5 International E.164 number for Trials

An international E.164 number for Trials can present as a calling party number, where the format of the calling party number delivered across boundaries of countries in case of the involved call parties are not within the same network is recommended below:

$\boxed{\text{Country Code}} + \boxed{\text{Trial Identification Code}} + \boxed{\text{Subscriber Number}}$

In this case, the Country Code and Trial Identification Code shall be the number assigned by the director of TSB and the Subscriber number shall be the number assigned by the assignee of the CC+TIC.

7.2.6 International E.164 number for Trials for shared country codes for a GoC

An international E.164 number for shared country codes for a GoC can present as a calling party number, where the format of the calling party number delivered across boundaries of countries in case of the involved call parties are not within the same GoC is recommended below:

$\boxed{\text{Country Code}} + \boxed{\text{Group Identification Code}} + \boxed{\text{Subscriber Number}}$

In this case, the Country Code and Group Identification Code shall be the number assigned by the director of TSB and the Subscriber number shall be the number assigned by the assignee of the CC+GIC.