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SERIES E: OVERALL NETWORK OPERATION,
TELEPHONE SERVICE, SERVICE OPERATION AND
HUMAN FACTORS

International operation – Operation of international
telephone services

International calling party number delivery

Recommendation ITU-T E.157

ITU-T



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Recommendation ITU-T E.157

International calling party number delivery

Summary

Recommendation ITU-T E.157 provides guidance for international calling party number delivery across boundaries of countries, which is technology neutral.

History

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* To access the Recommendation, type the URL <http://handle.itu.int/> in the address field of your web browser, followed by the Recommendation's unique ID. For example, <http://handle.itu.int/11.1002/1000/11830-en>.

FOREWORD

The International Telecommunication Union (ITU) is the United Nations specialized agency in the field of telecommunications, information and communication technologies (ICTs). The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of ITU. ITU-T is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

The World Telecommunication Standardization Assembly (WTSA), which meets every four years, establishes the topics for study by the ITU-T study groups which, in turn, produce Recommendations on these topics.

The approval of ITU-T Recommendations is covered by the procedure laid down in WTSA Resolution 1.

In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

NOTE

In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

Compliance with this Recommendation is voluntary. However, the Recommendation may contain certain mandatory provisions (to ensure, e.g., interoperability or applicability) and compliance with the Recommendation is achieved when all of these mandatory provisions are met. The words "shall" or some other obligatory language such as "must" and the negative equivalents are used to express requirements. The use of such words does not suggest that compliance with the Recommendation is required of any party.

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Recommendation ITU-T E.157

International calling party number delivery

1 Scope

This Recommendation provides guidance for international calling party number delivery, which is technology neutral. In this sense, this Recommendation is about the delivery of information from the call originating party, that is used for the determination of the origin of the call by the receiving party, irrespective of the network technology involved, e.g., whether calls are delivered over public switched telephone networks (PSTNs), Internet protocol (IP) based networks or any other type of public telecommunications network. The mechanism to assess the veracity of a particular calling party number is out of the scope of this Recommendation.

There appears to be a trend to suppress transmission across international boundaries of calling party numbers. Such practices may facilitate misuse of international numbering resources and create problems related to accountability and charging. This Recommendation provides guidance for the delivery of calling party numbers across different countries to improve their security (i.e., integrity) and minimize possible misuse, and risk of fraud and technical harm as called for by Article 42 of the Constitution.

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.

- [ITU-T E.101] Recommendation ITU-T E.101 (2009), *Definitions of terms used for identifiers (names, numbers, addresses and other identifiers) for public telecommunication services and networks in the E-series Recommendations.*
- [ITU-T E.156] Recommendation ITU-T E.156 (2020), *Guidelines for ITU-T action on reported misuse of E. 164 number resources.*
- [ITU-T E.164] Recommendation ITU-T E.164 (2010), *The international public telecommunication numbering plan.*

3 Definitions

3.1 Terms defined elsewhere

This Recommendation uses the following terms defined elsewhere:

3.1.1 country [ITU-T E.101]: A specific country, a group of countries in an integrated numbering plan or a specific geographical area.

3.1.2 E.164 number [ITU-T E.101]: A string of decimal digits that satisfies the three characteristics of structure, number length and uniqueness specified in [ITU-T E.164]. The number contains the information necessary to route the call to the end user or to a point where a service is provided.

3.1.3 operator [ITU-T E.101]: An operating agency providing public telecommunication networks or public telecommunication services.

3.2 Terms defined in this Recommendation

This Recommendation defines the following terms:

3.2.1 calling party number: The ITU-T E.164 number of the originator of the call or a special allocated number.

3.2.2 international calling party number delivery: Calling party number delivery across boundaries of countries.

3.2.3 special allocated number: A number from a series that the numbering plan administrator (NPA)/national regulatory authority (NRA) has allocated for the specific purpose of enabling operators/providers to show that they are responsible for a call when the original calling party number (CPN) cannot be transmitted.

4 Abbreviations and acronyms

This Recommendation uses the following abbreviations and acronyms:

CC	Country Code
CPN	Calling Party Number
CPND	Calling Party Number Delivery
IP	Internet Protocol
NDC	National Destination Code
NPA	Numbering Plan Administrator
NRA	National Regulatory Authority
PSTN	Public Switched Telephone Network
SN	Subscriber Number

5 Conventions

In this Recommendation the words "call" and "communication" are used as synonyms.

6 Calling party number and its delivery

International calling party number delivery (CPND), refers to the delivery of the calling party number, across boundaries of countries to allow the receiving entity to identify the calling party number. Presentation and/or delivery of the calling party number may be restricted by the calling party (the originator of the call) based on applicable national laws and regulations, and subject to the provisions of this Recommendation.

Implementation of calling party number delivery utilizes the features, facilities and applications that are available in the national public telecommunication networks and service offerings, and shall be provided, through agreements between the originating, the transit(s) and the receiving operators. However, the delivery of calling party numbers can transcend national boundaries, in which case it is not only a national matter, but is an international matter involving more than one country.

Calling party number (CPN) is information that is passed across the network/operators. The format of the CPN for international calls should be the full international E.164 number, i.e., country code (CC), national destination code (NDC) and subscriber number (SN) [ITU-T E.164].

CPND refers to the capabilities of sending, receiving and presenting E.164 number information, which is sent with the call and that the terminal equipment of the end user may use to present the number assigned to the calling party.

CPND is the basis for identifying the communication originators and providing related services.

The CPN information could be 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, in principle, the source of a malicious call, or to access location databases to derive the caller location information for, e.g., emergency services.

CPN shall be provided by the originating operator, transmitted transparently by the transit operators and received by the terminating operator. Presentation of the calling party number may be restricted by the calling party (the originator of the call) based on applicable national laws and regulations, however, the provisions of this Recommendation shall apply.

Delivery and presentation of the calling party number of the originator of the call for global numbering resources (e.g., CC 800, 883 assigned by ITU TSB) are mandatory.

7 General principles

The provisions of this Recommendation, including the following, shall apply for all communication services that utilize [ITU-T E.164] numbers, including but not limited to voice services, video services and message services.

Originating operators shall be able to identify the calling party number that originated an international call; in this sense there shall be no anonymous calls on the international routes.

Originating operators shall ensure the provision of the international CPN over international networks. Originating operators may restrict the presentation of their subscriber's number to the communication recipient in accordance with national laws and regulations or mark the CPN as restricted when the calling party requested that it be restricted. In such cases the full CPN would normally be transmitted to the terminating operator, who will restrict the presentation of the CPN.

If the presentation of the CPN is restricted or not possible for the terminating operator, the issue of what to present to the end-user is a national matter.

If national laws and regulations require the originating operator to fulfil its subscribers' requests to restrict presentation of their CPN by restricting delivery, and if special allocated numbers are foreseen at the national level, then the originating operator shall replace the subscriber's CPN with special allocated number(s), assigned to the operator, to show to all operators on the route of its responsibility for the call. The special allocated number should be defined at the national level, its format, conforming to [ITU-T E.164]. If special allocated numbers are not foreseen at the national level, an operator should insert numbers assigned to it, that allow identification of the operator that made the insertion, such as the CC+NDC followed by zeros.

Numbering plan administrators (NPAs)/national regulatory authorities (NRAs) that allow for the replacement of the CPNs by operators with special allocated number(s) should provide operators with an alternative [ITU-T E.164] number range for these special allocated numbers. NPAs/NRAs and operators should notify ITU of any such alternative [ITU-T E.164] number ranges, so that they can be published in the Operational Bulletin and as appropriate on the ITU web site.

Destination operators shall have the right to reject any call or call setup request that does not provide at least the information specified above.

End recipients of communications have the right to reject communications that do not provide the complete number of the originator of the call, or where that data is not present.

Transit operators shall be transparent with respect to the delivery of the CPN assuring the transmission without modifications of the received calling party number to the destination communication provider. Transit operators also have the right to reject communications that do not provide the complete CPN of the originator of the call, or a special allocated number.

For international calling party number delivery (see Figure 1), only the calling party numbers delivered across boundaries of countries are considered.

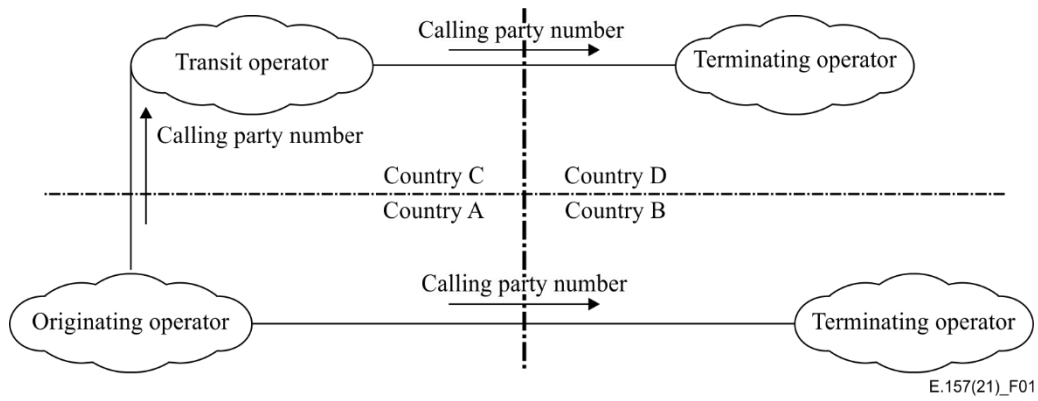


Figure 1 – International calling party number delivery

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