

# **ITU Workshop on “Origin Identification and Alternative Calling Procedures”**

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## **Telecommunication Origin Identification**

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# Main content

- Overview of the topic
  - Background
  - What is telecommunication origin identification about?
- Overview of current practice in ITU-T
  - What has been completed
  - What is currently done
  - what are the issues

# Background

- The goal of this workshop
  - present the current situation
  - consider proposals for future work, if any.
- Report by the Chairman of Committee 5
  - PP10-Document 155 R1

**Recommendation 6: The Plenipotentiary Conference instructs the Directors of TSB and BDT to collaborate in organizing one or more seminars or workshops on the topics covered by Resolutions 21 and 22, that is alternative calling procedures (including call-back and refile), telecommunication origin identification, and apportionment of revenues in providing international telecommunications services (including possible application of the concept of network externalities).**

# Concept

## ■ Telecommunication

### ➤ ITU Constitution

- 1012 Telecommunication: Any transmission, emission or reception of signs, signals, writing, images and sounds or intelligence of any nature by wire, radio, optical or other electromagnetic systems.

## ■ Origin

### ➤ ITU-T E.410(98)

- The location of the calling customer premises equipment. This may be specified to whatever accuracy is necessary.

# Concept

## ■ Identification

### ➔ Rec. ITU-R M.1224(1997)

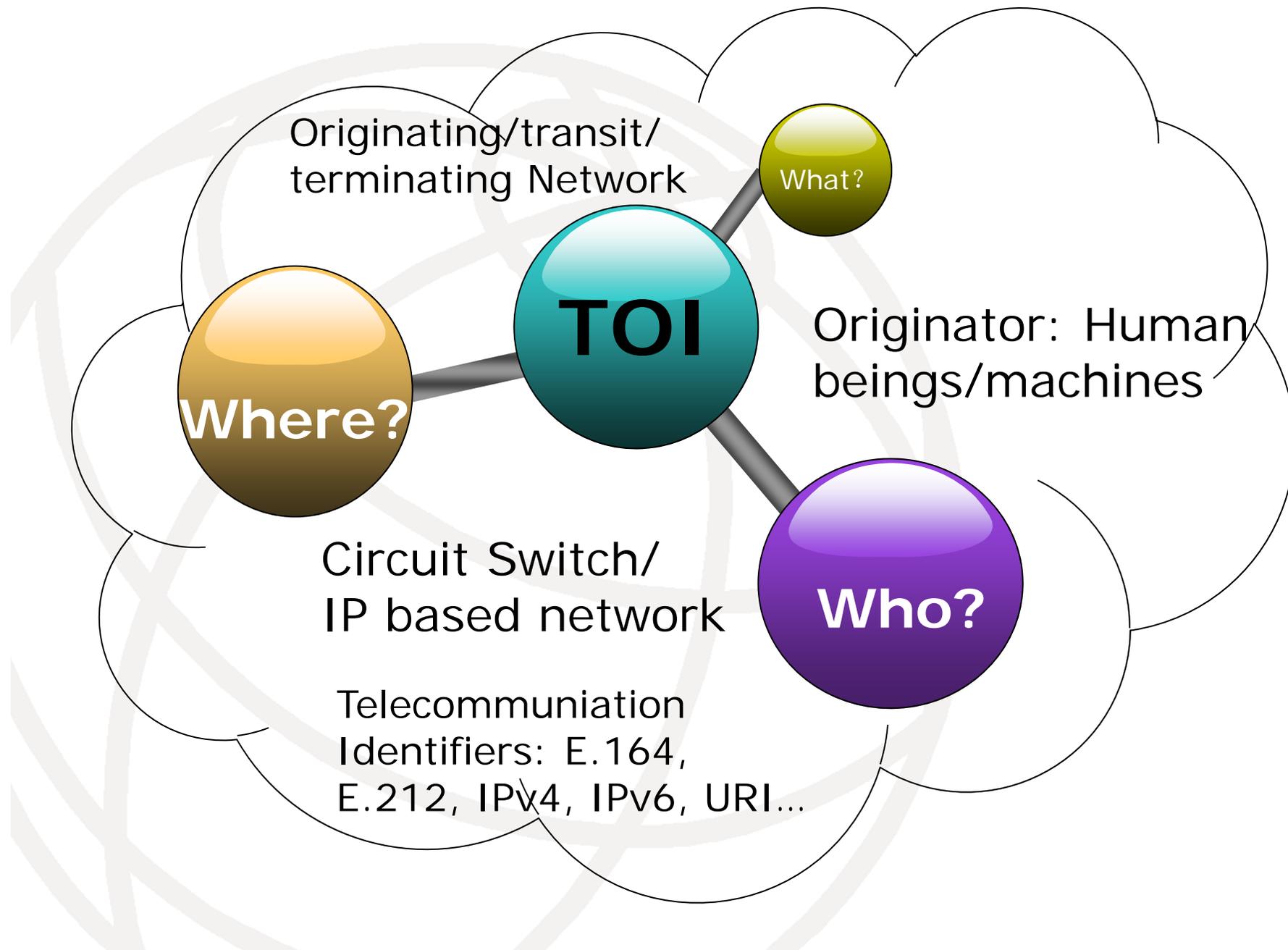
- A step in a procedure used to identify a user or terminal to a service provider for the purposes of broad prevention.

### ➔ Rec. ITU-T X.1252

- The process of recognizing an entity by contextual characteristics

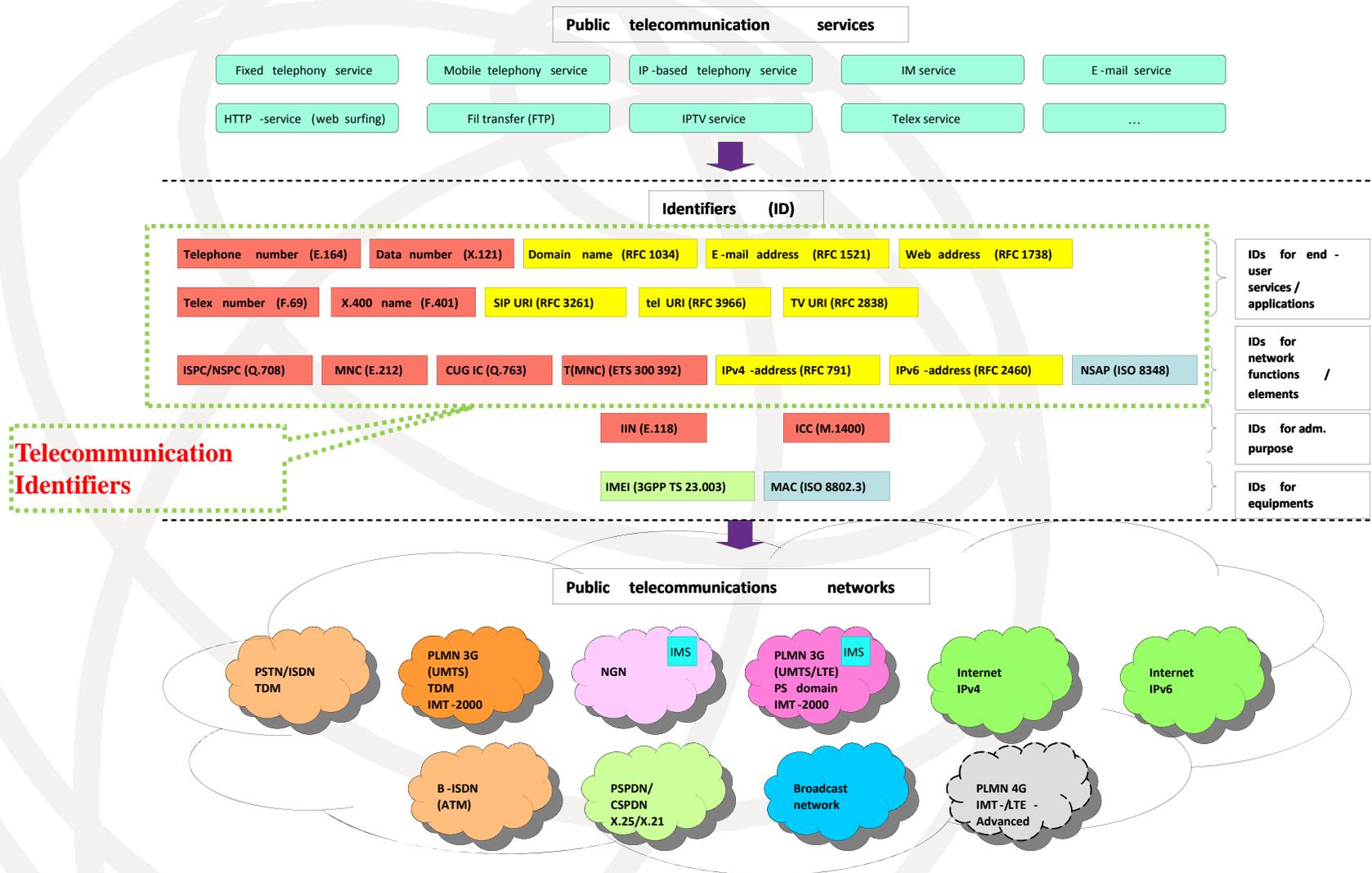
# Concept

It's hard to get precise definition for "Telecommunication Origin Identification (TOI)" from the existing definitions



# Telecommunication Identifiers

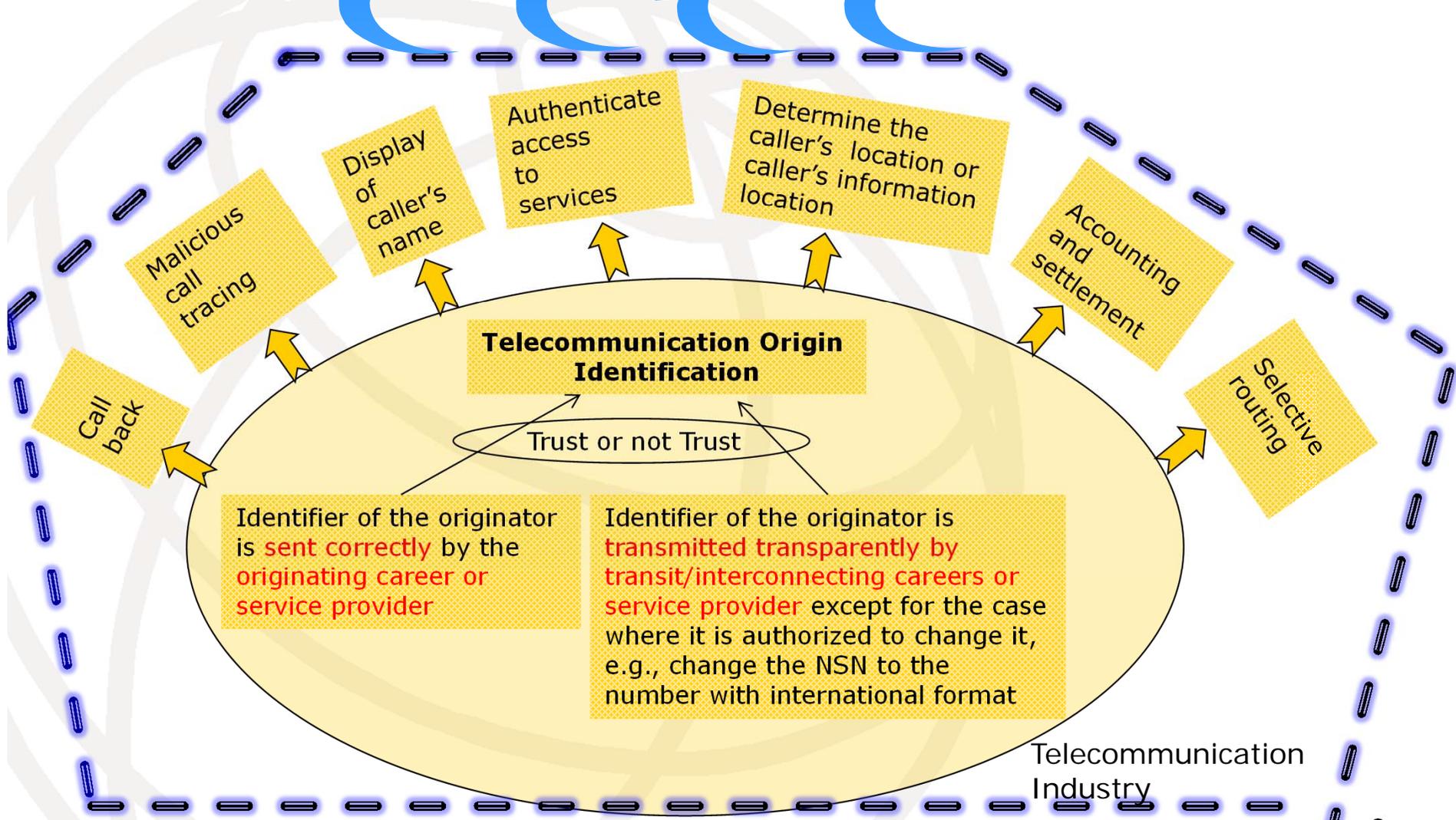
## --TD 65 (WP1/2)



# Role of TOI

The use of technology for social and community development

- Emergency services
- National security
- Counter terrorism
- Telecoms Anti-fraud



# Current practice in ITU-T

- ➔ Focusing on E.164 numbers
  - Not yet considering other identifiers
- ➔ WTSA-08 Resolution 65
  - Calling party number delivery  
*(Johannesburg, 2008)*
- ➔ E.157 (11/2009)
  - International Calling Party Number Delivery
- ➔ ITR
  - Whether and how to add new items

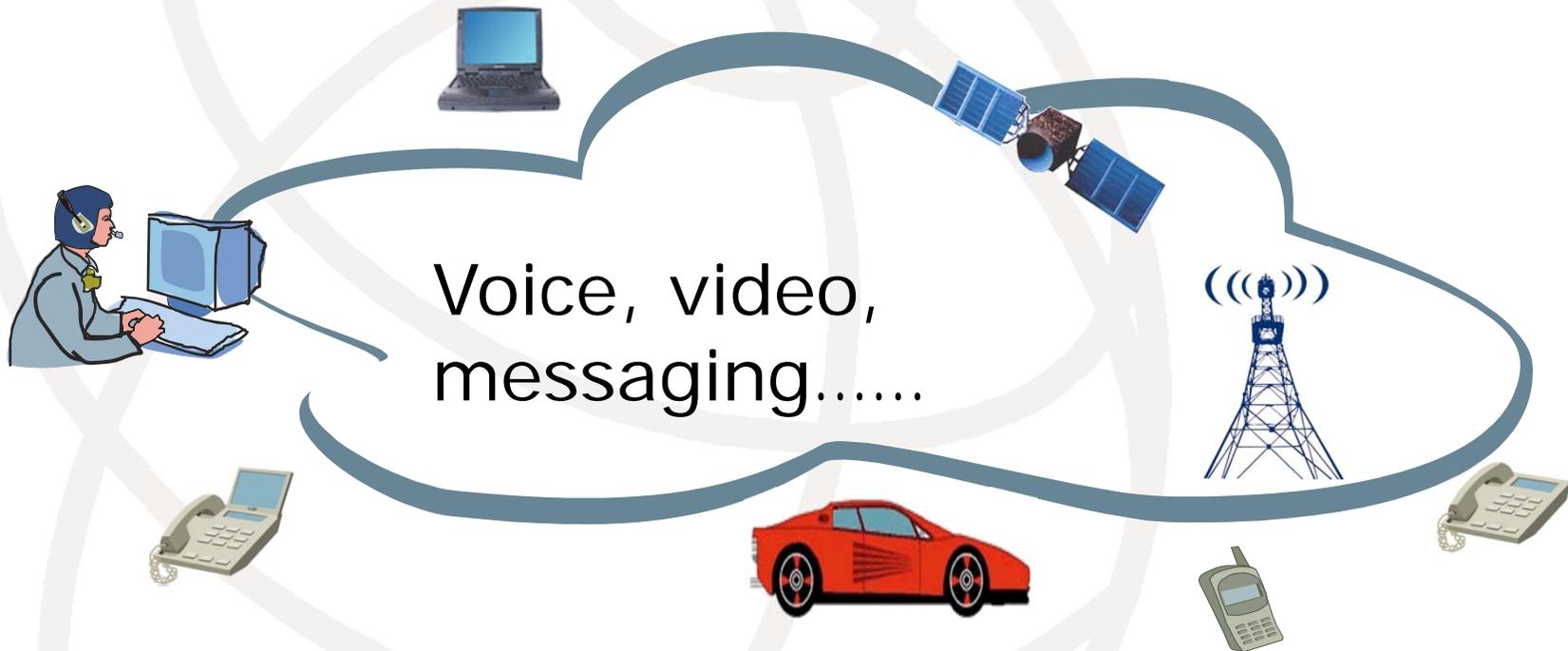
# Types of CPN

## Service Number:

Service access code  
Service subscriber number

## Subscriber Number:

Fix, mobile, SIP, H.323, etc.



# Actions on CPN

Generate

PABX, ISDN terminal (NT), SIP phone, Service platform, LE, MSC, Softswitch, IP GW, Signaling board.....

Verify

PABX, LE, TM, GW, Service platform, Softswitch, IP GW, SMSC, Signaling board.....

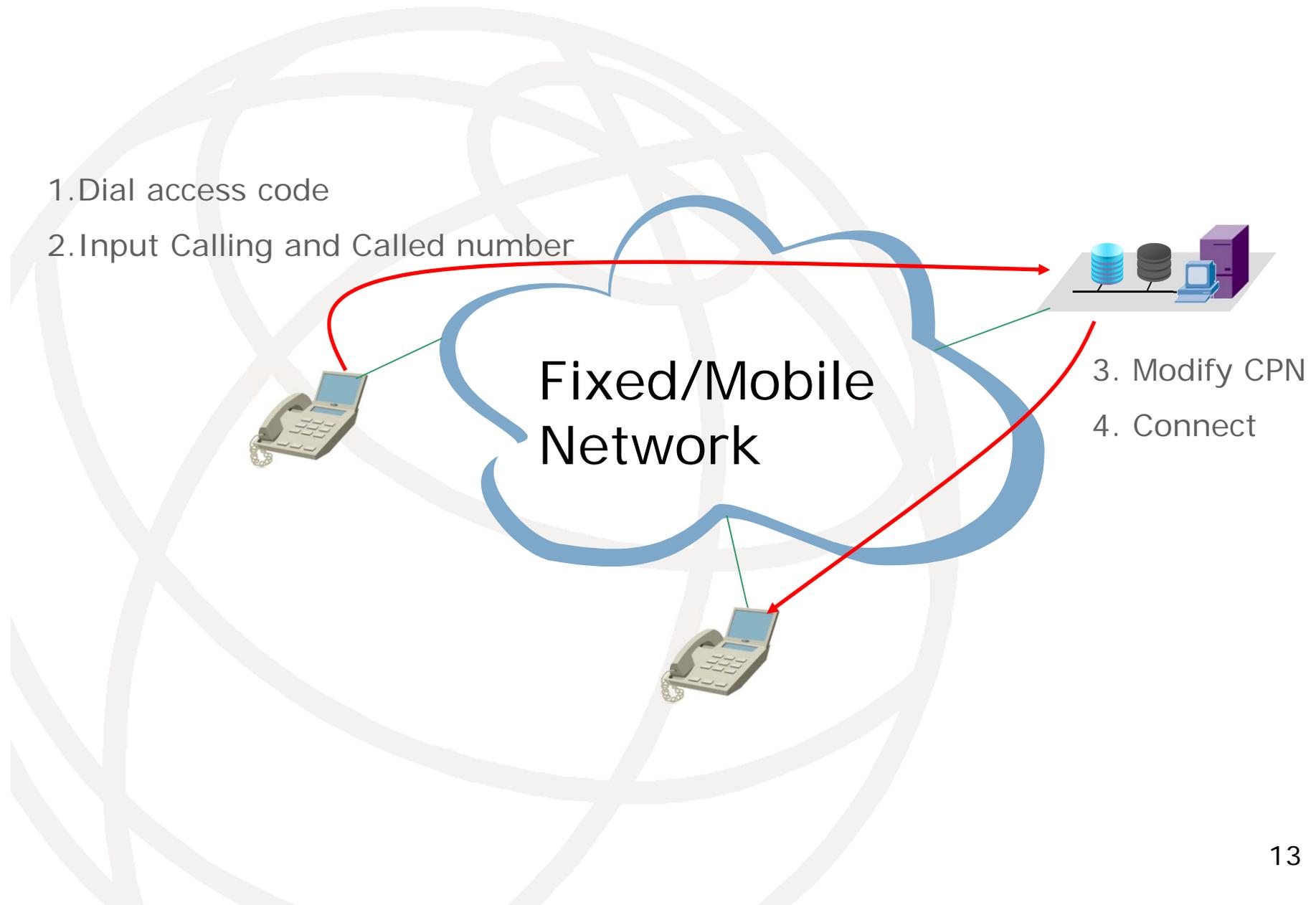
Modify

Authorized: LE, TS, IS, SCP, Service platform, Signaling board.....  
Unauthorized: Service platform, PABX, MG.....

Transmit

STP, SG.....

# Invented CPN-1



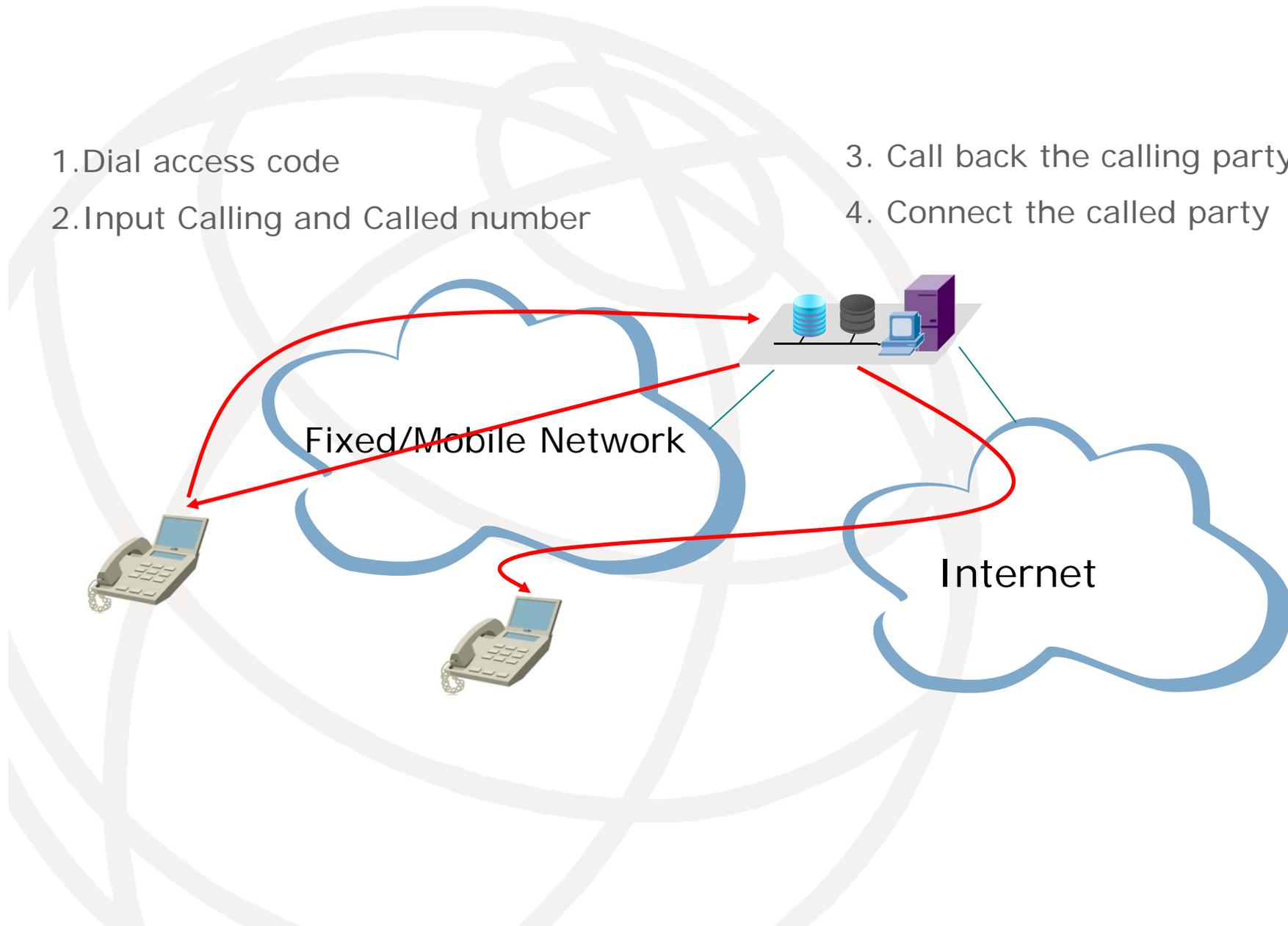
# Invented CPN-2

1. Dial access code

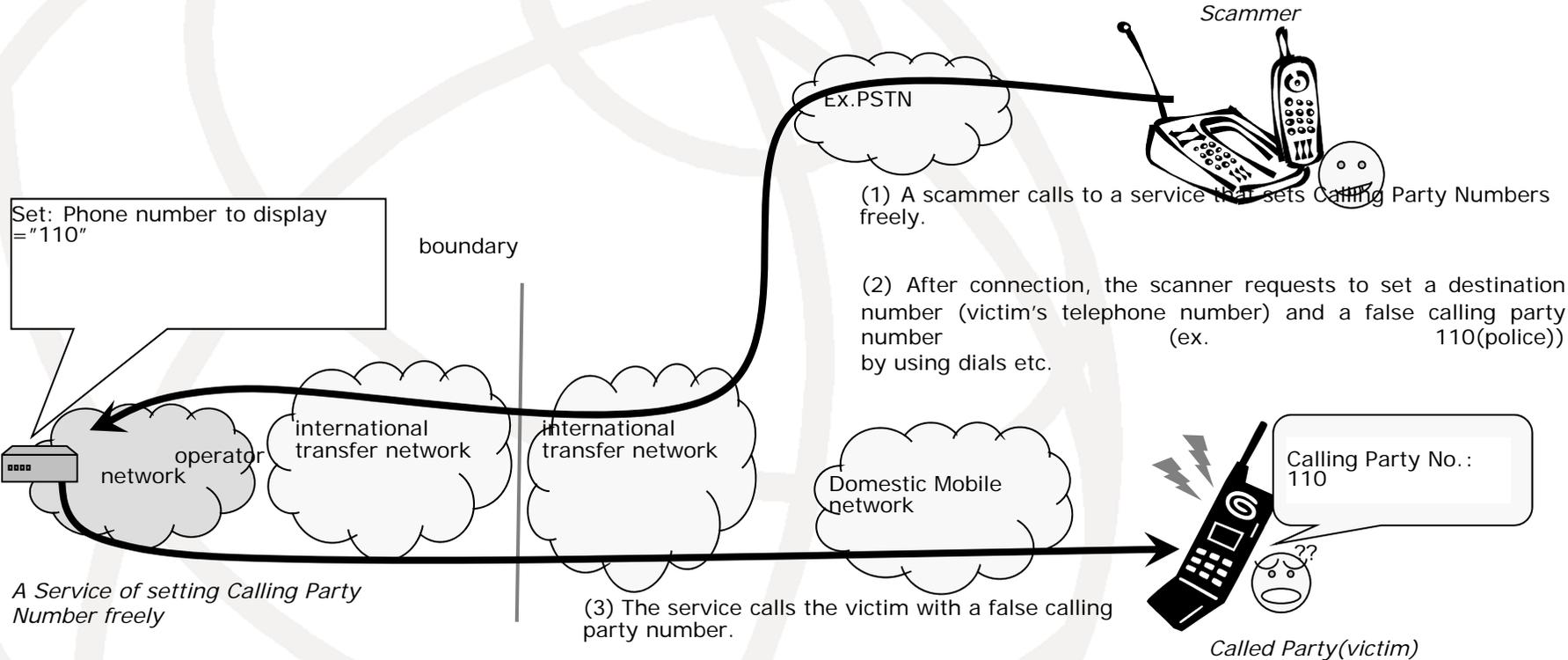
2. Input Calling and Called number

3. Call back the calling party

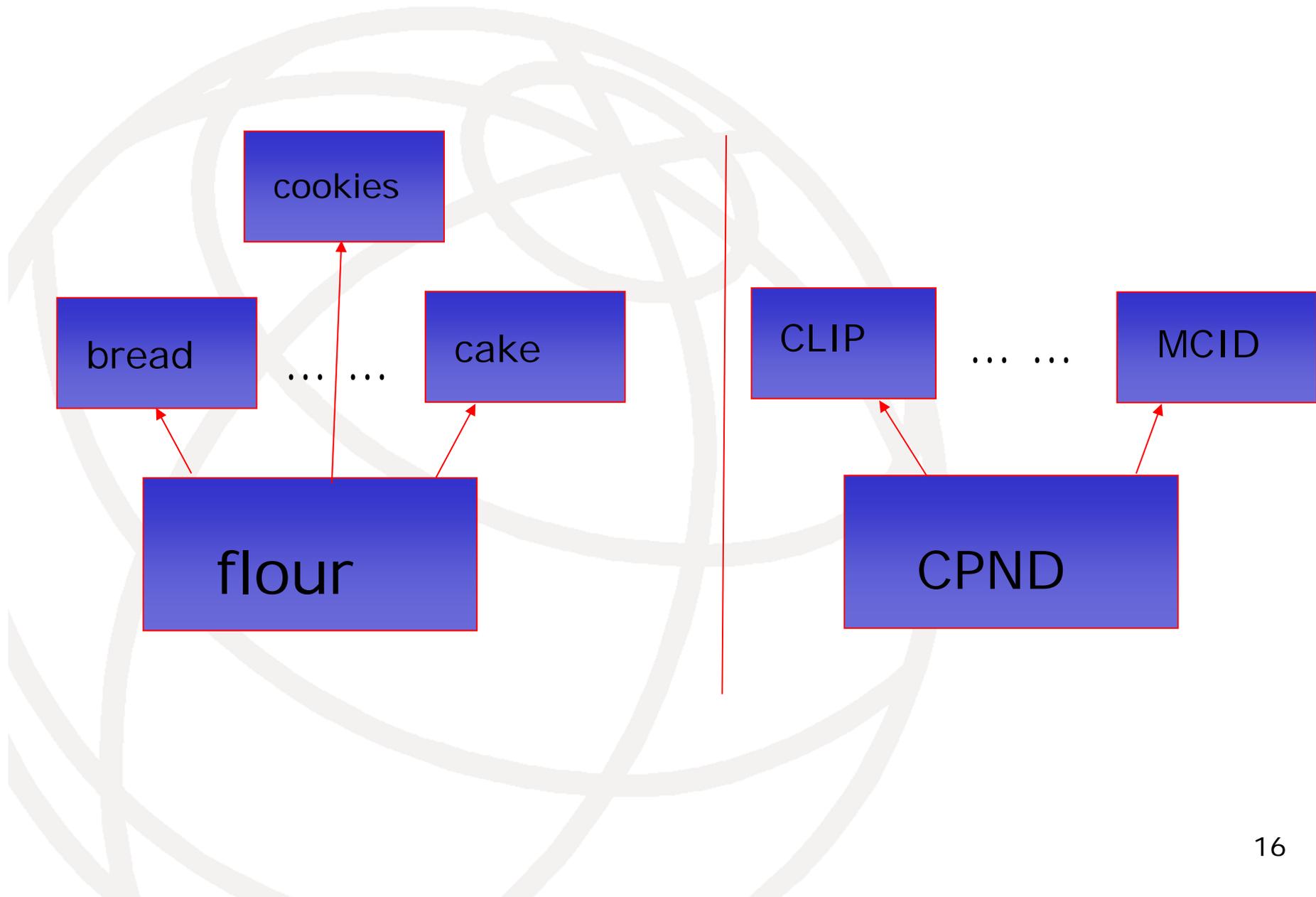
4. Connect the called party



# C56-October 2007



# CPND and CLIP



**RESOLUTION 65**  
**Calling party number delivery**  
*(Johannesburg, 2008)*

- there appears to be a trend to **suppress the transmission** across international boundaries of calling party identification, in particular the country code and the national destination code
- such practices have an **unfavorable effect** on security and economic issues

# Resolves to ...

- **consistent with** technical capabilities and national legal and regulatory frameworks
- *resolves*
  - international calling party number delivery shall, be provided based on the **relevant ITU-T Recommendations**
  - that the delivered calling party numbers shall, consistent with technical capabilities and national legal and regulatory frameworks, **be prefixed with country codes** to identify in which country the calls are originated before they are delivered from an originating country to a receiving country

## Resolves to ...

- ▶ that, in addition to the country code, the delivered calling party number shall, include the national destination code, or sufficient information to allow proper billing and accounting, for each call
- ▶ that the calling party number shall, be transmitted transparently by transit networks (including hubs)

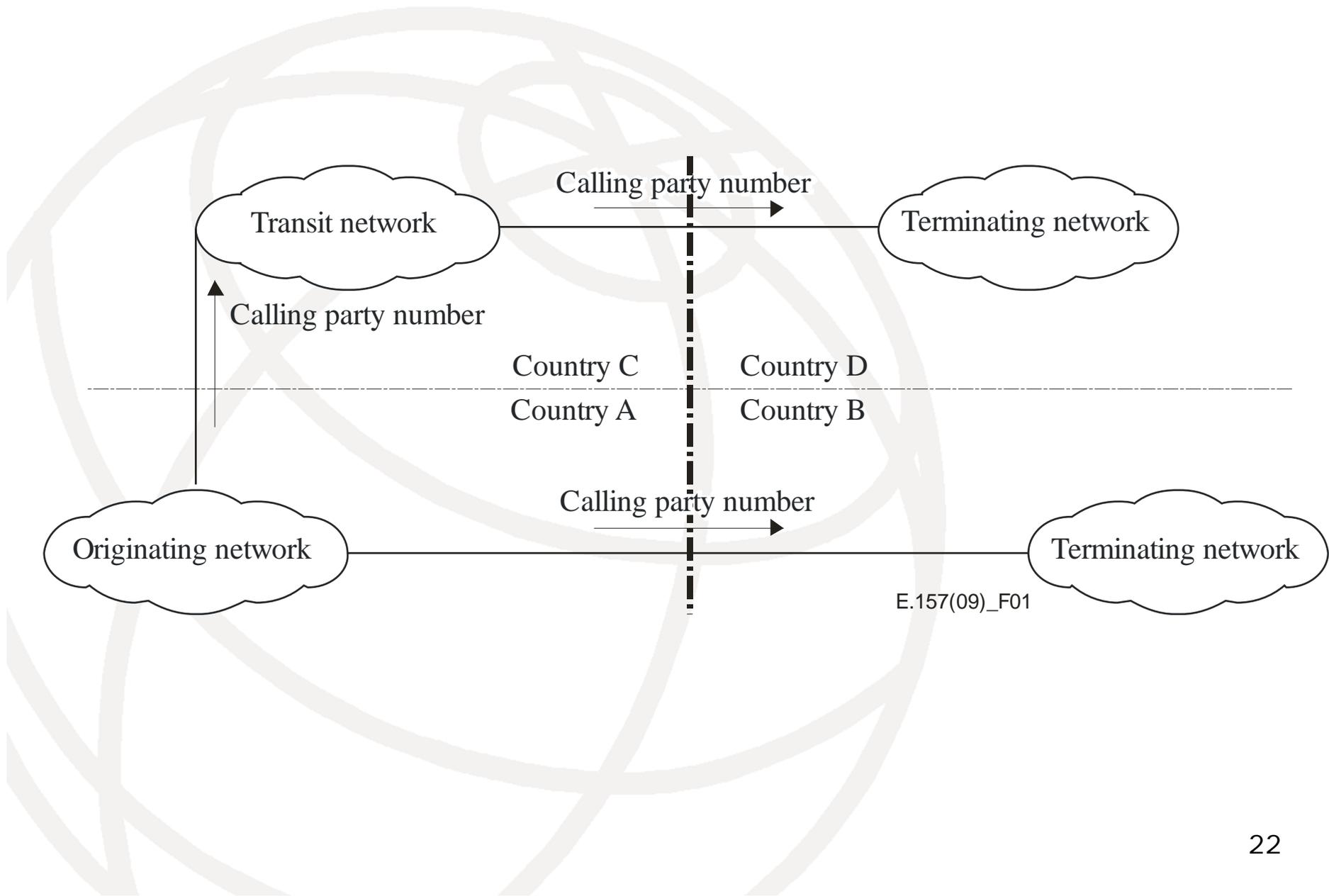
# Instructs to ...

- the concerned study groups, in particular **Study Group 2**
  - to expedite **work on Recommendations** that would provide additional detail and guidance for the implementation of, at least, the principles listed above
- **the Director** of the Telecommunication Standardization Bureau
  - to **report on the progress** achieved by the study groups in implementing this resolution, which is intended to **improve security and minimize fraud, and minimize technical harm** as called for by Article 42 of the Constitution

## E.157(11/2009)

# International Calling Party Number Delivery

- provides **guidance** for international calling party number delivery which is **technology neutral**
- International calling party number delivery refers to **calling party number delivery across boundaries of countries**
- Calling party number delivery is **the basis for identifying the originating parties of calls and providing number identification supplementary services** such as CLIP, MCID, which are specified in [ITU-T I.251] (for service) and [ITU-T Q.731] (for signalling) series



# General Principle

- consistent with technical capabilities and national legal and regulatory frameworks
- be provided based on the relevant ITU-T Recommendations
- For geographic numbers
  - The delivered CPN shall be prefixed with country codes identifying the originating country
  - In addition, the delivered CPN shall include the national destination code, or sufficient information to allow proper billing and accounting, for each call
  - The CPN shall be transmitted transparently to the destination (succeeding) country by the transit network(s) (including hubs)

# Guidance

- calling party numbers sent across international boundaries shall, consistent with technical capabilities and national legal and regulatory frameworks, contain as a minimum the country code of the originating country in the following cases
  - the CLIR supplementary service is applicable
  - Restrictions in cases of national legal and regulatory frameworks

# Guidance

- For subscriber numbers, the delivered CPN shall be
  - Normal call: number allocated by the operator
  - Call forwarding: not the original called number
  - Number portability: number shall not be changed
  - PABX, branch office, private network and group telephone system: pilot numbers
- For a call originated by a call center or public service platform, the delivered CPN shall be
  - the number allocated to the service by the administrator
- For any party who does not have a telephone number, the delivered CPN shall be
  - the country code from the country that the call has originated and the number allocated to the service platform by the administrator

# Relevant ITU-T Recommendations

- **Q.731.**
  - ◆ x-series concerning stage 3 descriptions for number identification supplementary services using Signalling System No. 7;
- **Q.731.7**
  - ◆ Stage 3 description for number identification supplementary services using Signalling System No. 7: Malicious call identification (MCID);
- **I.251.3**
  - ◆ Number identification supplementary services: Calling Line Identification Presentation;
- **I.251.4**
  - ◆ Number identification supplementary services: Calling Line Identification Restriction;
- **I.251.7**
  - ◆ Number identification supplementary services: Malicious call identification;
- **Q.764**
  - ◆ Signalling System No. 7 – ISDN User Part signalling procedures;
- **Q.1912.5**
  - ◆ Interworking between Session Initiation Protocol (SIP) and Bearer Independent Call Control protocol or ISDN User Part,
- **ITU-T E.164**
  - ◆ The international public telecommunication numbering plan

# ECC RECOMMENDATION (11)02

## Calling Line Identification and Originating Identification

### **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 **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. It proposes measures to increase trust in the OI/CLI.

Comparing with E.157, it provides more detailed requirements and extends the scope to other identifiers

# ITR status

- There were proposals from some member states to add new text on international CPND to ITR which has a higher level of authority than ITU-T recommendations
- Proposals of adding new text on international calling party number delivery to ITR have been discussed in CWG WCIT-12 meetings. There were no agreement on these proposals. And there was also opposition to adding new text to ITR on this topic.

## ITR

1.4 References to CCITT Recommendations and Instructions in these Regulations are not to be taken as giving to those Recommendations and Instructions the same legal status as the Regulations.

# Proposals

Pursuant to article 3.5

International calling party number delivery shall be provided taking into account/in accordance with relevant ITU-T Recommendations

to the greatest extent practicable

Member States

in certain specific circumstances

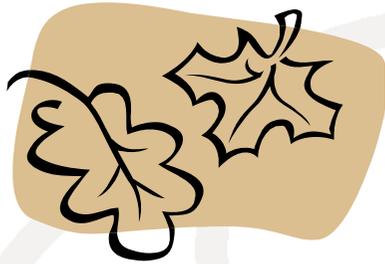
may provide for data privacy by authorizing the masking of information other than the country code and national destination code

but that masked information shall be made available to duly authorized law enforcement agencies

**3.5 Member States shall ensure that the legal and regulatory frameworks and instruments applicable in their territories shall mandate Administrations, Recognized Operating Agencies, and Operating Agencies which operate in their territory and provide international telecommunications services offered to the public to apply the ITU-T Resolutions and Recommendations relating to naming, numbering, addressing and identification**

# Proposals

- Members shall ensure, consistent with technical capabilities and national legal and regulatory frameworks, that telecommunication administrations and operators cooperate in the implementation and application of the following measures:
  - ◆ – Administrations and operators originating calls must provide the prefix designating the calling country code, in conformity with the relevant ITU-T Recommendations.
  - ◆ – Transit administrations and operators must cooperate in identifying and transmitting to termination administrations and operators the code identifying the calling line corresponding to the traffic they receive.
  - ◆ – Members will be able to respect the privacy of the data of the calling user, provided those data involve neither the code of the country of origin nor the national destination code.



**Q&A?**

**Thanks!**

