ITU Workshop on 
Origin Identification and Alternative Calling 
Procedures 
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Calling Party Number Delivery 
and Origination Identification

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Content

- Aspects of Origination Identification.
- How CPND/OI is linked to Fraud.
- Protection of Users’ and MSs’ rights.
- Examples of National and Regional Practices.
- Proposed ITU Work.
Origination Identification

Can be classified in several levels:
- Calling Party Identification.
- Calling Party Number Identification.
- Calling Line Identification.
- Operator/Network (NDC) Identification.
- Country (CC) Identification.
- Server Identification.
The Historical Transformation

- From Accounting Rate system to Special Arrangements based system.
- From Direct Relation to Indirect Relations.
- Asymmetrical Relations, gave room for Arbitration.
- Pressure to lower termination rate.

Saliou Toure’ on Hubbing: “In actuality, we are leaving the ITR of ITU, and from now on the laws of the market apply, i.e. the rule of the fittest !!”

Hubbing

Hub/Hubbing Defined by ITU:

A.31 Hub
A transit centre (or network operator) that offers to other operators a telecommunication traffic termination service to nominated destinations contained in the offer.

A.32 Hubbing
The routing of telecommunication traffic in *hubbing mode consists in the use of hub facilities to terminate telecommunication traffic to other destinations, with full payment due to the *hub.*

But there is no Recommendation on the service requirements for a HUB.
How Fraud is related to CPND/OI?

Distinction between commercialization and fraud.

- Hubbing activity itself is based on arbitration \(\Rightarrow\) is OK in contemporary market place.

- But Fraudulent activities within a HUB \(\Rightarrow\) have negative effect on the terminating country.

- Best shown by an example,
  - Country X (Origination), Country Y (Termination), have direct route, or traffic routed through a HUB (transit Point):
CLIP Masking financial Impact

- Masking for the CLIP

**Saving for X**: 0.06 – 0.04 = 0.02 $/min
**Hub Margin**: 0.04 – 0.02 = 0.02 $/min (50% Gain)
**Loss for Y**: 0.06 – 0.02 = 0.04 $/min (33% Loss)

**Outpayment**: 0.06 $/min
CLIP Masking financial Impact

- Masking for the CLIP

For example if the volume of traffic between the HUB and Y is 100 Million minutes, and between X and Y was 10 Million Minutes then the loss can be shown in the following chart:
Revenue in Million $ - HUB: 100M min., Y: 10M Min.

- Country Y
- HUB

Revenue HUB
Revenue Y
Country Y

Direct
Transit
Fraud

-12%
-15%

0% 10% 20% 30% 40%

0 0.5 1 1.5 2 2.5 3

Mill $
**One more Issue: User’s Rights!**

**Users’ Right:**
- A Roaming subscriber has the right to know who is calling, as long as he pays for the call!

**Users’ Convenience:**
- Roamer can neglect anonymous calls. But what if it is an Emergency or a VIP call?!!
- Ethically, a user should know who is calling, and identify the Origin (from where the call is!), e.g. at least National or International call!
- *No barring NO Spoofing NO Deception*!!
- CLIR is a good source for Malicious calls ........ !
And Another Issue: Security

Traffic can be “directed” or “attracted” to RED country, without Originating County knowledge.
Reading inside E.157 and WTSA Res. 65

ITU-T Rec. 157 on CPND says:
- *ICPND is an international matter.*
- *Gives guidance to improve security and minimize fraud and technical harm as called for by Article CS 42*.

Also WTSA-08 Res. 65 on CPND says:
- *There is a trend of suppression of CP Identification.*
- *This have an unfavorable effect on security and economic issues;*

E.157 enumerated the minimum delivery requirement per class of implementation (e.g. CC, NDC/GIC, Pilot Number (PBX), Platform Number (e.g. Server ID in non E.164 implementations) ...........etc.
Both embedded whenever an obligation is set for CPND the phrase: “...subject to technical capabilities and national legal and regulatory frameworks...”.

Example:

- **7.1.3** The calling party number sent from an originating (previous) country shall, consistent with technical capabilities and national legal and regulatory frameworks, be transmitted transparently to the destination (succeeding) country by the transit network(s) (including hubs).

Add to that: “the overall voluntary nature of the ITU-T Recommendations”

Resulted in the trend of non-implementation of E.157!
ECC Recommendation (11)02, CEPT countries Recommendation on “Calling Identification and Originating Identification”, 5 May 2011:

“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 unfavorable effect on services based on CLI”
What some National and Regional Regulations and Legislations Say?

**ECC Recommendation (11)02**, CEPT countries Recommendation on “Calling Identification and Originating Identification”, 5 May 2011:

“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 **(without alteration)** adhering to ITU-T and/or ETSI related international standards”;

What some National and Regional Regulations and Legislations Say?

**ECC Recommendation (11)02**, CEPT countries Recommendation on “Calling Identification and Originating Identification”, 5 May 2011:

“Depending on bilateral/multi-lateral agreement or restrictions in cases of national legal and regulatory frameworks, the originating network may restrict OI/CLI information 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.”
What some National and Regional Regulations and Legislations Say?

**ECC Recommendation (11)02**, CEPT countries Recommendation on “Calling Identification and Originating Identification”, 5 May 2011:

“that the principles of these recommendations should also be applied, where relevant, in all electronic communication networks and for all electronic communication services (e.g. SMS) that make use of public numbering, naming and addressing resources.”
What some National and Regional Regulations and Legislations Say?

In a nutshell ECC Rec.(11)02, says:

- There are CLI related fraudulent activities.
- National & Intern’l OA shall provide or transport and forward CLI/OI transparently.
- If CLI/OI is restricted, terminating subscriber shall be acknowledged, and CC may be provided.
- Applicable to all networks and services that make use of NNA resources.
What some National and Regional Regulations and Legislations Say?

FCC Docket No. 91-281, Calling Number Identification Service - Caller ID, Sec. 64.1601

Delivery requirements and privacy restrictions:

(a) Delivery. Common carriers using SS7 and offering or subscribing to any service based on SS7 call set functionality are required to transmit the calling party number associated with an interstate call to interconnecting carriers.
What some National and Regional Regulations and Legislations Say?

FCC Docket No. 91-281, *Calling Number Identification Service - Caller ID*, Sec. 64.1601

Delivery requirements and privacy restrictions:

**(b) Privacy.** Originating carriers using SS7. If caller request privacy, a carrier may not reveal his number or name; called party can’t contact the calling party. *The terminating carrier must act in accordance with the privacy indicator unless the call is from charge number based service and the call is paid for by the called party.*

*A very similar situation to Roamers!!*
What some National and Regional Regulations and Legislations Say?

FCC Document FCC 11-100: FCC Rules and Regulations Implementing the “Truth in Caller ID ACT” of 2009:

§ 64.1600 “Definitions”:
(d) Caller identification service means any service or device designed to provide the user of the service or device with the telephone number of, or other information regarding the origination of, a call made using a telecommunications service or interconnected VoIP service.

(was “IP-enabled voice service” in the ACT !!)
What some National and Regional Regulations and Legislations Say?

FCC Document FCC 11-100: FCC Rules and Regulations Implementing the “Truth in Caller ID ACT” of 2009:

§ 64.1604

“Prohibition on transmission of inaccurate or misleading caller identification information.”

(a) No person or entity in the USA shall, with the intent to defraud, cause harm, or wrongfully obtain anything of value, knowingly cause, directly or indirectly, any caller identification service to transmit or display misleading or inaccurate caller ID info.
What some National and Regional Regulations and Legislations Say?

FCC Ruling and CID ACT 2009 in a nutshell:

- Interstate CPND is mandated.
- If the terminating subscriber is charged, then CLIP is mandated, even if the calling number is screened.
- Caller and origination ID is extended to IP enabled services (Interconnected VoIP services).
- Misleading or inaccurate Caller ID causing Fraud is prohibited by Law.
Lessons learned from National and Regional Regulations and Legislations

- All, recognize instances of CPND/OI related Fraud.
- CPN *Shall* be delivered (by the Recommendations !)
- Its presentation depends.... !
- Applies on Int’l and Interstate.
- Spoofing is prohibited.
- Respects terminating user’s rights.
- Applies on all networks using NNA.

Proposed ITU Work

SG2 and SG3 to continue their work (e.g. cont./new Questions, also in cooperation with the ITU-D sector) to:

- Comprehensively characterize ACP including hubbing and refilling,........; taking into consideration IP scenarios.
- Recognize the mechanisms and instances of OI related fraud, spoofing, ..etc;
- Develop Recommendations on the necessary service requirements to prevent or alleviate such malpractices.
Proposed ITU Work

Collaboration between SG2 and SG17 in the area of identification (caller, calling line and network identification).

- Recognize work of SG17 on Identification including Network Entity Identifiers ... .
Proposed ITU Work

- Invite WTSA12 to consider revisions of Rec. 157; and WCIT12 to consider provisions in the ITRs to
  - Mandatory International CPND/OI.
  - At least the CC and the NDC or the equivalent network identifier be transmitted, (identification of the originating OA).
  - Truth in CLI/OI (no spoofing, no blocking ...... particularly in transit points).

Thank You

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