

ITU Workshop on Origin Identification and Alternative Calling Procedures

(Geneva, 19-20 March 2012)

Calling Party Number Delivery and Origination Identification

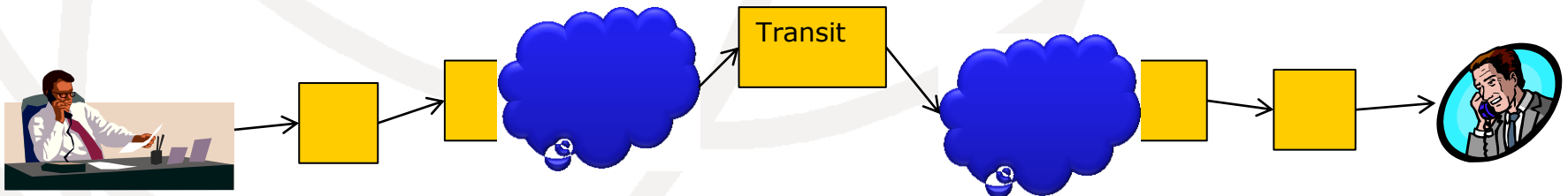
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Content

- 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

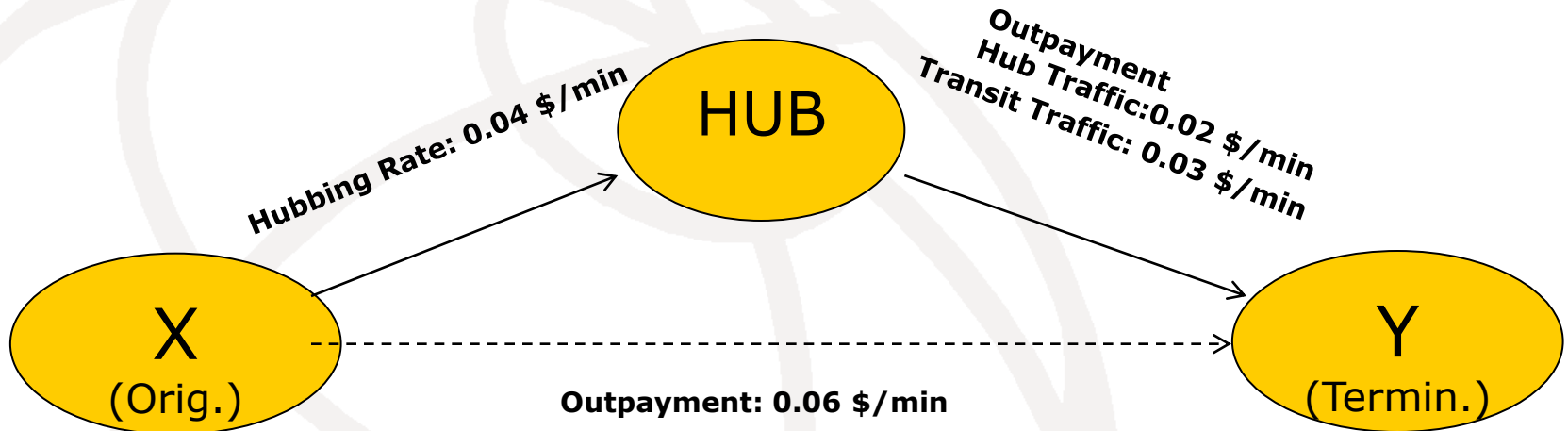
- Hub/Hubbing Defined by ITU:
 - **A.31 Hub**
 - A transit centre (or network operator) that offers to other operators a telecommunication traffic termination service to nominated destinations contained in the offer.
 - **A.32 Hubbing**
 - The routing of telecommunication traffic in *hubbing mode* consists 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 ➡ is OK in contemporary market place.
 - But Fraudulent activities within a HUB ➡ 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

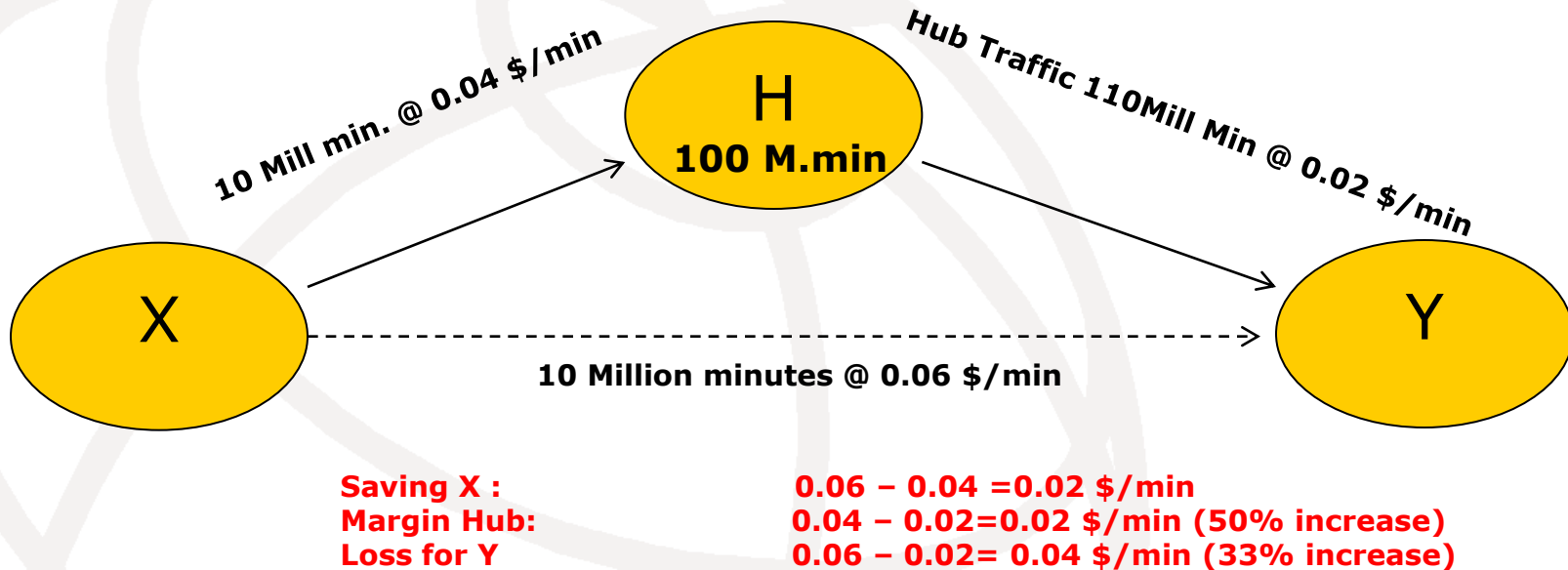
- Masking for the CLIP



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)
Saving for X	:	0.06 – 0.04 = 0.02 \$/min
Hub Margin	:	0.04 – 0.03 = 0.01 \$/min
Loss for Y	:	0.06 – 0.03 = 0.03 \$/min

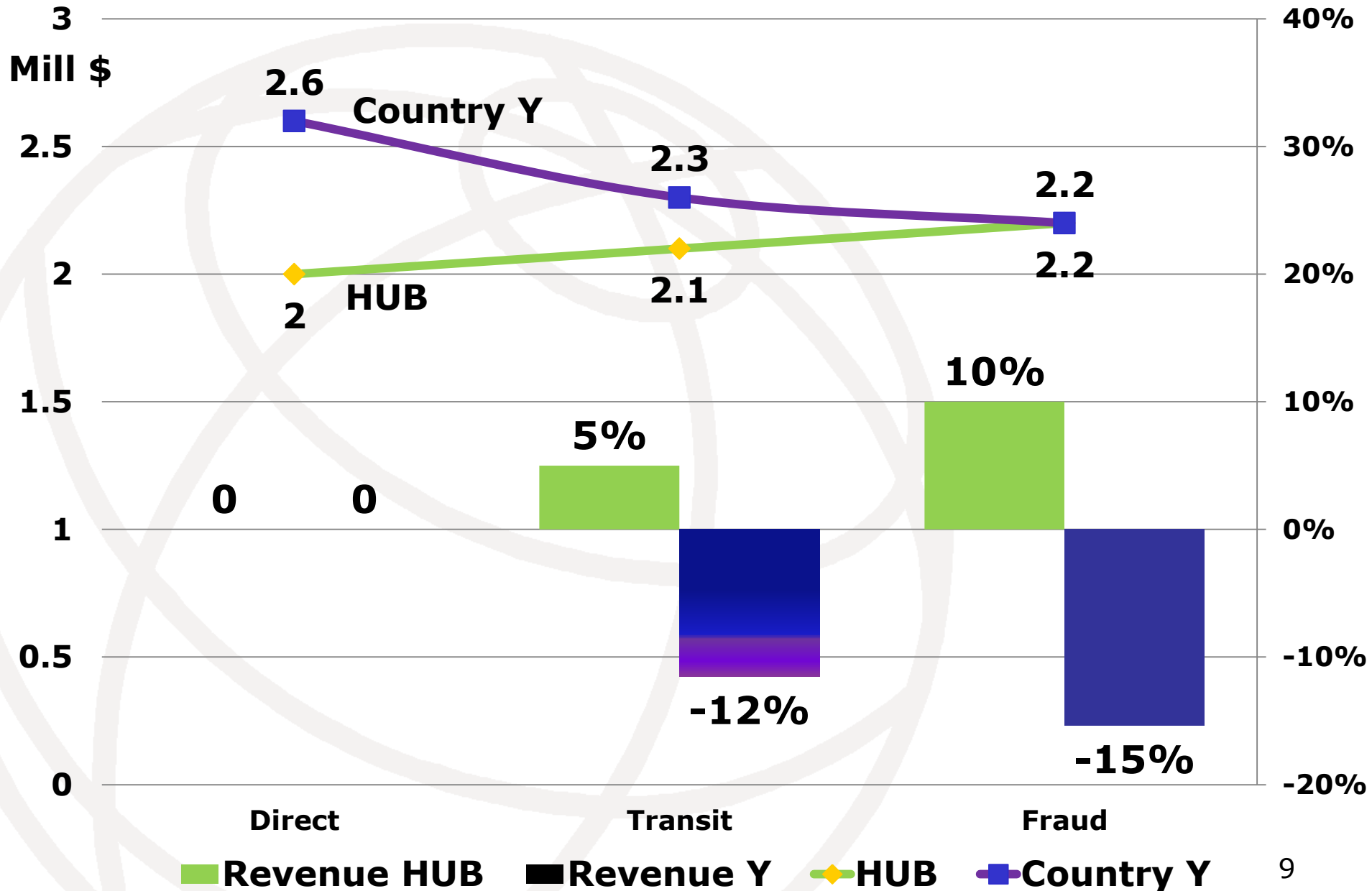
CLIP Masking financial Impact

- 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.



One more Issue: User's Rights!

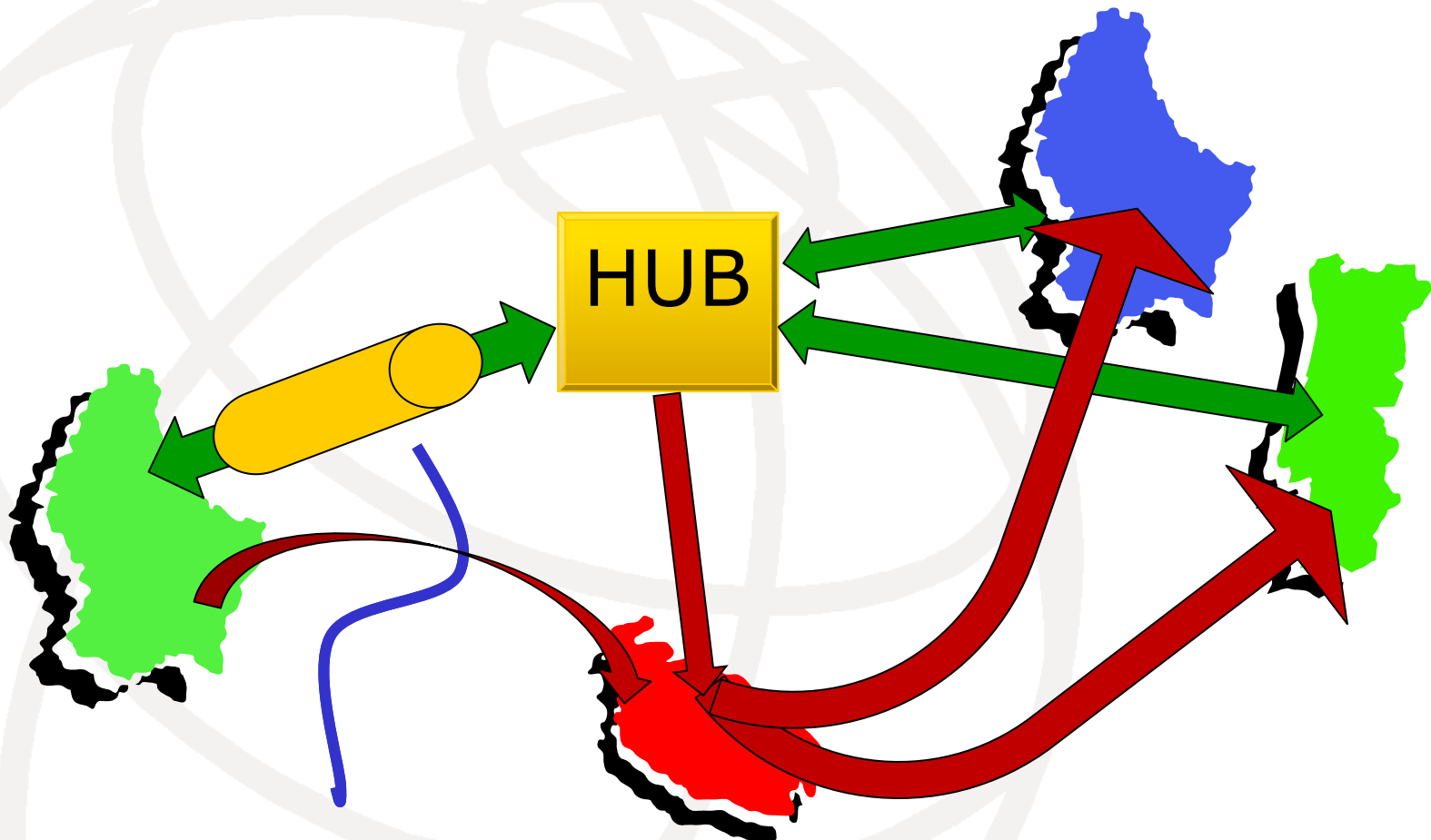
■ Users' Right:

- 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.*

Shortcomings in E.157 & WTSA Res. 65

- *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 !

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:

- “*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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