Interworking with IP Based Network & Deemed Impermissible Traffic

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Introduction

- IP based telecommunication applications such as OTT, has become a generally used in telephone services.
- A huge amount of calls are originated or terminated to PSTN/PLMN using interconnection between IP based platforms which cause illegal traffic or deemed impermissible traffic.

Deemed impermissible traffic

An international traffic that may be not regulated on a country by country basis such as:

- Call Refiling
- Call Masking
- SimBox
- OTT application
- Premium rate services
- Wangiri

Types of Deemed Impermissible Traffic

- **Call Refiling** where international calls are forwarded by an originating network to terminating network using either the local interconnect or international routes between the networks, the CLI may or may not be changed prior to reaching the terminating entity.
- **Call Masking** where international calls are forwarded by an originating network to terminating network using either the local interconnect or international routes between the networks, the CLI is changed prior to reaching the terminating entity.
- **Simbox** where the operators route international calls through the VoIP connection and connect the call as local traffic, allowing the Simbox's operator to bypass international rates and often undercut prices charged by local mobile operators.

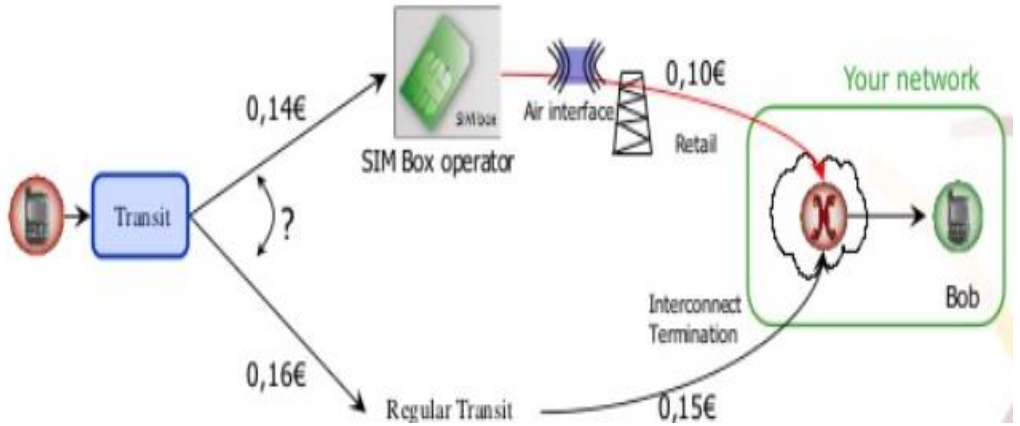
Types of Deemed Impermissible Traffic

- **OTT application** where the calls are originating from PSTN/PLMN network and terminating to a telecommunication application services based on IP network.
- **Premium rate services** (PRS) fraud occur due to commercial agreement gaps between some fraudulent carriers and operators which generate a huge traffic to PRS services and huge profit to the countries.
- **Wangiri** defined as short calls generated with the purpose of leaving a missed call notification on the display of customers' handsets or a message is send to the customer thus prompting them to call back.

How does it works??

OTT bypass

SimBox bypass



Impacts of Deemed impermissible traffic

- Huge loss of revenue of the terminating national operators as well as the relevant Member State national revenues.
- Difficulties and vulnerabilities in security, privacy and lawful interception requirements;
- Violation of consumer rights by enforced usual deterioration of QoS/QoE against the will or without knowledge of the caller and/or the callee.
- Possible ambiguity and/or fraud in the call charging from the originating party.

Some Solutions

For Wangiri and PRS

Operator

- Set up the fraud management system to provide the hot number alarm on suspected PRS numbers;
- Call pattern analysis and alarms on suspect premium rate numbers.
- Review international commercial agreement to close any gap that PRS fraudsters may use.
- Monitoring international traffic in order to detect any unexpected huge international traffic.

Regulators

- Set a blacklisted of suspected numbers and codes and share it with ITU in order to stop/prevent PRS fraud case.
- For Wangiri the regulators should implement fraud cases, in addition to the above technical solutions, which used to eliminate PRS fraud, and operators, the customer awareness of this type of fraud should be raised.

Some Solutions

For OTT application

- A certain numbering range may should assign for the IP application to avoid unknown CLI problem and to give the end-user the ability to decide wither to accept or reject the call.
- This number might be fixed number to each user or a random number which assigned to IP applications.

IP based application

Relevant Discussion

- In ITU-T SG2 (29 March –7 April 2017) meeting held in Geneva, Egypt has submitted a contributions C26, describes the impacts of fraudulent of OTT telecommunication applications and also seeking ITU-T SG2 to have a description of such services.
- In ITU-T SG2 (27 November - 1 December 2017) meeting held in Geneva, Egypt has submitted a contribution C69, to add application based on IP technology to ITU-T recommendation E.370.
- Egypt invited all member state to contribute in this topic.
- Also, Egypt propose to set up a new work item for deemed impermissible traffic.
- In ITU SG2 (4 to 13 July 2018) meeting held in Geneva, Egypt has submitted a draft text for ITU-T E.dit “Deemed impermissible traffic” in contribution C184

Relevant Discussion

- In the last ITU-T meeting Sudan has submitted a contribution C173 describes national deemed impermissible traffic, also Nigeria has shared some of deemed impermissible traffic in contribution C182
- In last ITU-T Q3/2 rapporteur group meeting, Sudan and Nigeria has submitted a contribution C4 provides Draft text for ITU-T E.dit “Deemed impermissible traffic” after compiling the contribution from Egypt, Nigeria and Sudan under TD814

Conclusion

- Egypt would like to invite Arab and African group of member state to contribute in the Draft text for ITU-T E.dit “Deemed impermissible traffic” TD814 in order to finalize it.
- Egypt is inviting SG2 African and Arab Group to share their experience of deemed Deemed impermissible traffic.

Thank you