

Numbering Resource Misuse and Fraud

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Meeting	ITU Workshop on “Origin Identification & Alternative Calling Procedures”
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For Approval	
For Information	X
Version	3
Security Classification	Non-Confidential

Agenda

- GSMA & Fraud Forum Introduction
- International Revenue Share Fraud
 - Explanation
 - Numbering Resource Misuse
 - FF Response
- Request



GSM Association (GSMA) Background

- Represents interests of mobile operators worldwide
- Membership of 800 operators and 200 manufacturers and suppliers
- Unites industry to drive the future and extend the reach of mobile communications



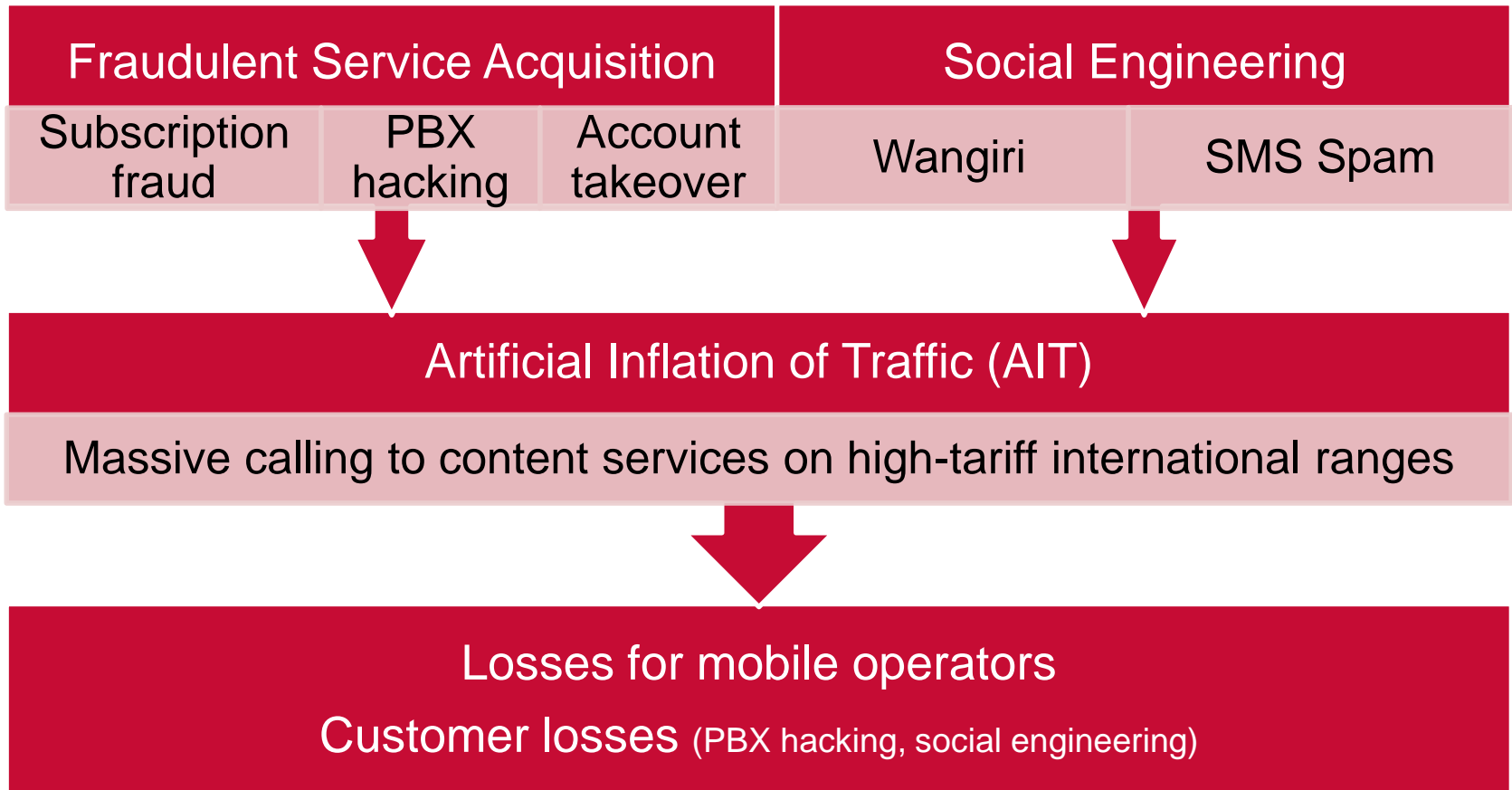
Fraud Forum (FF) – Objectives & Membership

- Trusted forum on GSM fraud issues to minimise exposure for members
 - Develop fraud awareness
 - Exchange intelligence & best practice
 - Develop & maintain industry countermeasures
 - Assess the fraud exposure of new services
 - Collaborate with other GSMA and external groups

FF Membership – Jan 2012

	<i>Total</i>
Individual members	487
Countries	106
Companies	242
<i>Operators</i>	199
<i>Associate members</i>	43

International Revenue Share Fraud (IRSF)



IRSF Key Contributing Factor: Short Stopping

- Calls never reach geographical destination indicated by international country code
 - Re-routed by a carrier in traffic chain to terminate on content server anywhere
 - Used to generate revenue on numbers with high international termination rates

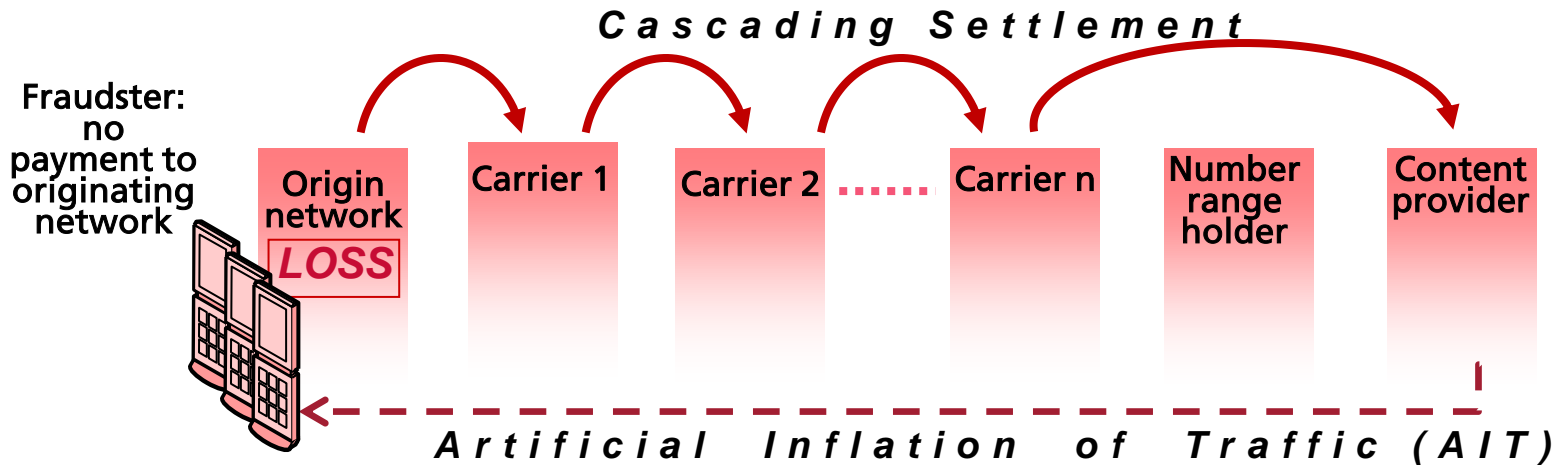
Authorised
Short-
Stopping

- Some countries have assigned number ranges specifically for *special services* (e.g. Austria +43820, Latvia +371 810)
- Used for international content services

Number
Range
Hijacking

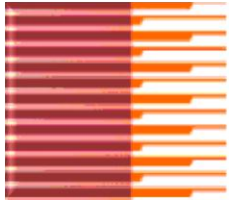
- Other countries' number ranges are being short-stopped without their knowledge & authorisation.
- Number range holder receives no traffic or termination fee.

International Revenue Share Fraud (IRSF)



- **International content services are an attractive target for fraud.**
- Content providers are motivated to generate incoming traffic to their own content services.
 - Committing or facilitating fraud
 - Receive payment quickly, long before other parts of settlement chain and despite obvious fraud at originating network

ITU-T Position: Intended use of International Country Codes



ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

E.156

Supplement 1
(11/2007)

5.2 Telephone number misuse

5.2.1 Misuse of international numbers

International country codes as defined in ITU-T Rec. E.164 are intended as addresses to indicate the required destination of a telephone call. When these codes are used in the accounting and settlement procedures, then the accounting rate should be that required for the cost efficient termination of the call in the country designated by the country code. Such codes are not designed to be used as charging band indicators for calls that are terminated short of the designated country. Furthermore separate provision is made within ITU-T Recommendations for designating International Premium Rate and Shared Cost Service.

The use of international country codes usually puts such calls outside any national regulatory provisions on premium rate and revenue share call arrangements.



ITU-T Principles: Use of International Numbering Resources

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E.190

(05/97)

6.2.6 Principle 6: Use of E-Series numbering resources

E-Series numbering resources will only be utilized by the assignee for the specific application for which they have been assigned by the ITU-TSB.

...

Numbering resources may not be sold, licensed or traded. Nor may they be transferred, except in the case of a merger, acquisition, or joint venture. Any such transfer shall be notified to the administrator.

Misuse Openly Occurs Despite ITU-T Position

From
website of
international
voice carrier

“Partner with us and allow your numbering resources to be used to create virtual international revenue share numbers.”

“We currently work with over 70 international telephone carriers”

“...our clients’ content will generate international incoming traffic on which we will share revenue with you.”

Example: Misuse

- Rate card from website of international premium rate number provider
- Are these numbers being used for the specific application for which they were assigned by the ITU-TSB?
- Have these numbers been sold, licensed or traded?
- Do calls to these numbers terminate in the designated country?
- Are there any national regulatory provisions governing these premium rate or revenue share arrangements?

countrycode	country	solution
	355 Albania 001	+355-4
	43 Austria 031	+43-810
	43 Austria 032	+43-
	43 Austria 035	+43-810
	43 Austria 036	+43-820
	43 Austria 037	+43-821
	43 Austria 038	+43-820+
	375 Belarus 003	+375-60
	359 Bulgaria 016	+359-99
	236 Central African Republic 003	+236-36
	56 Chile 002	+56
	243 Congo (Zaire) 006	+243-42
	53 Cuba 001	+53-37
	291 Eritrea 001	+291-3
	372 Estonia 021	+372-701
	995 Georgia 004	+995-76
	1876 Jamaica 002	+1876
	371 Latvia 006	+371-
	371 Latvia 007	+371-
	371 Latvia 008	+371-
	423 Liechtenstein 057	+423-90
	370 Lithuania 007	
	95 Myanmar 001	+95-52
	227 Niger 001	+227-
	248 Seychelles 004	+248
	34 Spain 001	+34-902
	886 Taiwan 002	
	216 Tunisia 001	+216-7
countrycode	country	solution
	243 Congo (Zaire) 005	+243-
countrycode	country	solution
	44 UK 845 012 (per call)	+44-845
	44 UK 871 015	+44-871
	44 UK Mobile 003	+44-75

Addressing Number Resource Misuse

- Pacific Islands & Liechtenstein regulators stopped selling/leasing their ranges or introduced greater controls following escalation by FF.
 - Short-term success
 - Problem moved elsewhere
 - Biggest abuses occurs where regulation is absent or ineffective
- Hijacking is becoming dominant form of misuse
 - Invisible to regulators
 - Happening outside of regulator's jurisdiction
 - Regulators cannot tackle it in isolation

FF Responses to IRSF: Current Status

■ Strategic

- Proposed GSMA code of conduct requiring mobile operators to properly administer their number ranges (or name & shame)
- Considering invitation from BEREC* to fraud workshop
- Increasing collaboration with carriers (i3Forum fraud work stream & within GSMA).

■ Operational

- Number range barring (fraud alert process, Hot B Number database)
- Rapid detection mechanism for roaming fraud

* Body of European Regulators for Electronic Communications



Request

- FF contribution to Study Group 2 (SG2) meeting contains 106 misuse reports from 14 mobile operators.
- FF request to SG2:
 - Analyse effectiveness of existing ITU-T controls against misuse
 - Share information on any additional controls planned or under study
- FF request to ITU-T assigned owners of misused numbering resources:
 - Investigate the legitimacy of services offered on these ranges.
 - Collaborate in SG2 to identify and implement countermeasures to number range hijacking
- Suggestion: Processes (information sharing) rather than recommendations.

Thank You

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