

Issues associated with the use of the resources

Number misuse vs fraud

- Misuse

- *Where the use of an E.164 numbering resource does not conform to the relevant assignment criteria for which it was assigned or when an unassigned numbering resource is used in the provision of a telecommunication service (Section 4 of Recommendation ITU-T E.156)*
- Can be countered by Stakeholder action

- Fraud

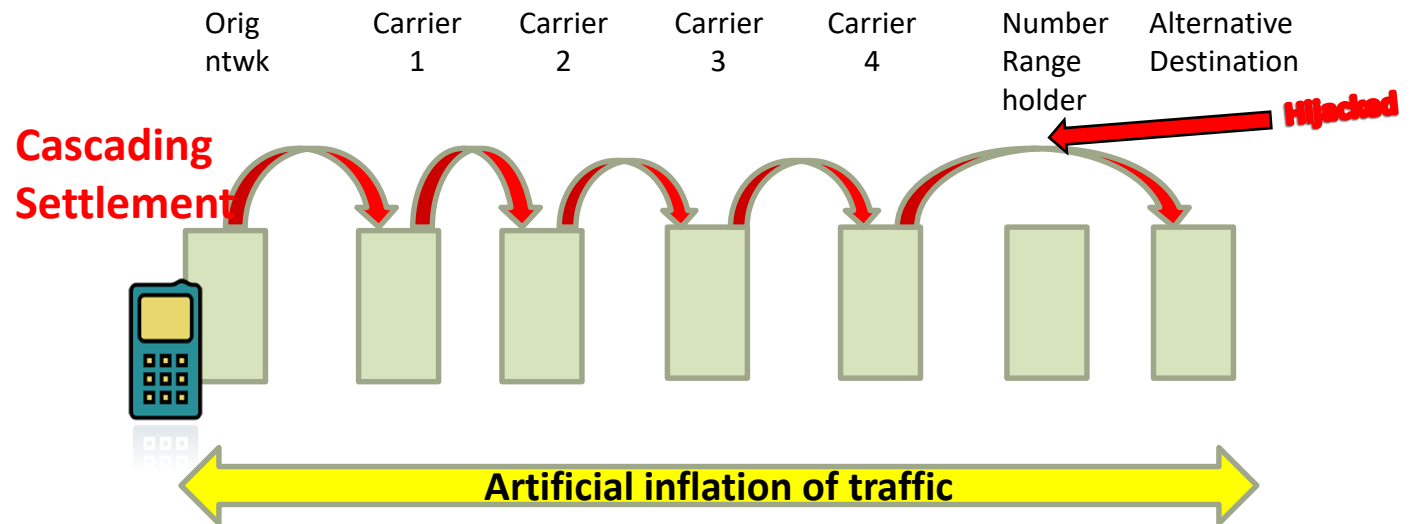
- *Where the use of a number in the manner for which it was allocated but for the purpose of generating cash at the expense of the customer and/or operators (table1 of supplement 1 to E.156)*
- Legal Jurisdiction – not led by Stakeholders

Types of Misuse & Fraud

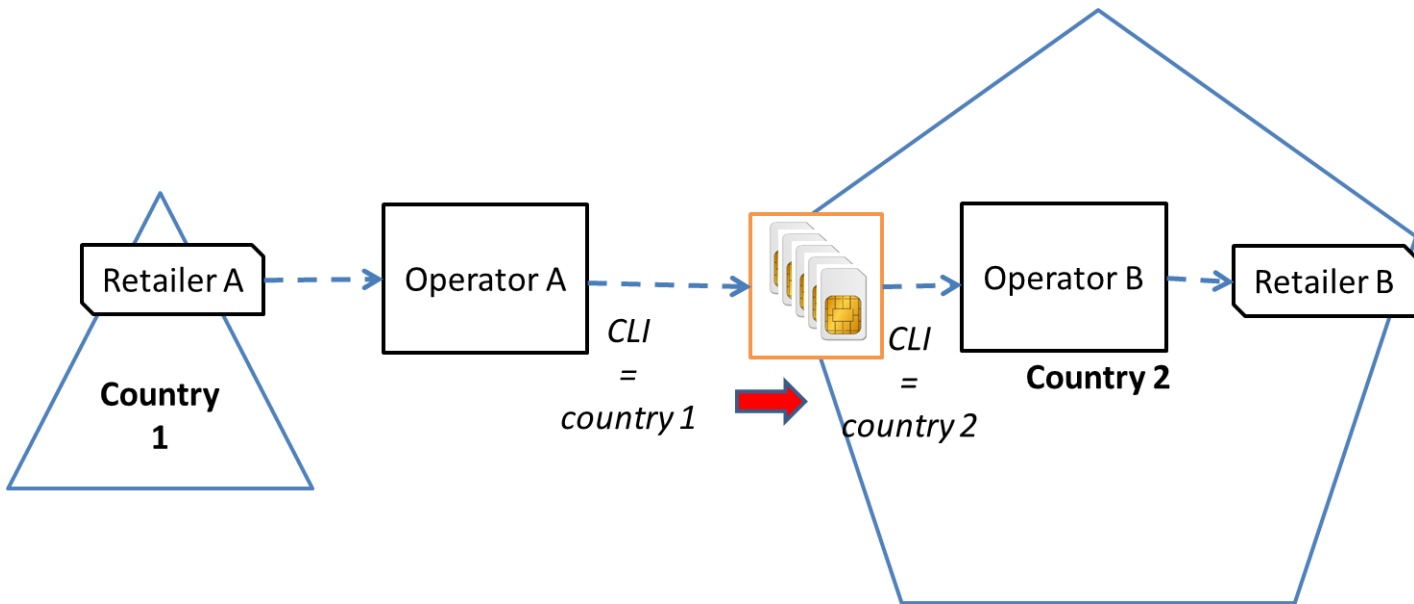
- Roaming Fraud
- Social Engineering Fraud
- Wangiri
- Subscription Fraud
- Short Stopping
- International Premium Rate resellers

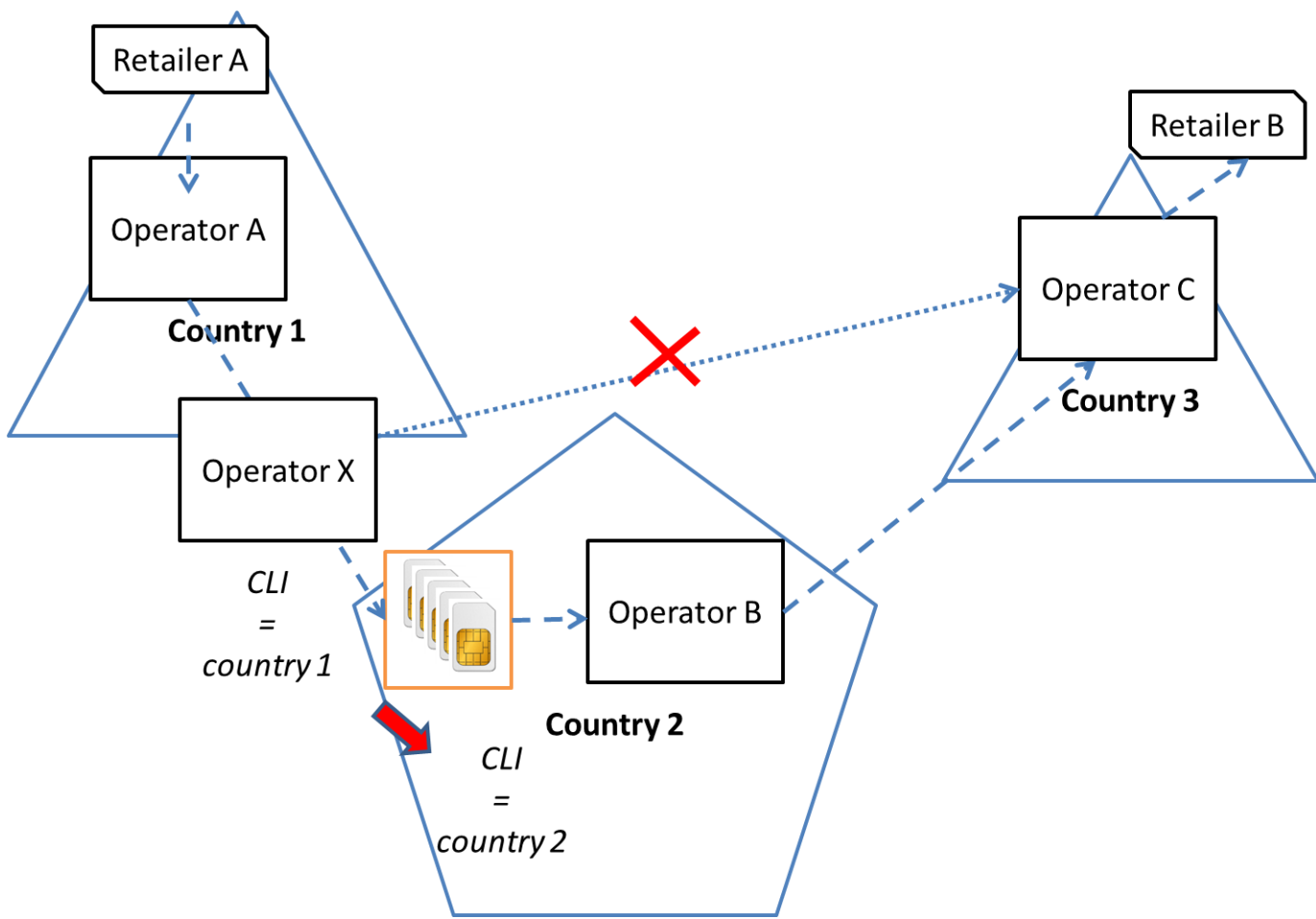
An example on number short stopping

- Calls never reach geographical destination intended by the country code
- Rerouted by carrier in traffic to terminate on server anywhere
- Used to generate revenue on numbers with high termination rates
- Number range holder receives no traffic or termination fee as the number range is hijacked!



- Alternative Destination motivated to generate traffic
- Aim to receive payment quickly before other parts of settlement chain
- Even more difficult to detect with roaming





Dealing with International misuse

- Under the spotlight - Recommendation E.156 is under review
- Where misuse occurs using International numbering resource E.156 applies
- NRAs/operators should notify the ITU when they become aware of misuse
- They must explain why they believe that a misuse is occurring
- NRAs are invited to publish in the ITU Operational Bulletin details of misuse of numbering resources that is their responsibility to increase awareness
 - e.g. pointing out that particular numbering ranges are not assigned and therefore should not be routed
- Once traffic has left NRA Jurisdiction its no longer their responsibility
- The ITU looking to provide additional guidance through a 'best practice' Supplement
 - Needs to deal with Premium Rate Services, Fixed/Mobile Numbers

Common theme -high termination rates!

Dealing with misuse of National numbers

- Where such misuse is occurring nationally the issue should be raised with the relevant national numbering plan administrator.
- Not all countries have procedures in place to deal with this!
- Role of ITU specified in E.156 is potentially shifting from notification of numbering misuse to distribution of information on numbering misuse

The key issues

- Regulatory issues
 - A Structured Numbering Plan is a must!
 - Clear rules of use
 - Registration of Premium Rate Service Providers?
 - Agreed procedures when misuse occurs including reporting requirements and follow on actions
- Operator issues
 - Awareness of rules
 - Awareness of actions required
 - Billing
 - Intelligent call barring
 - Traffic analysis
- Consumer issues
 - Price Warnings
 - Number Barring
 - Customer relationships!

Calling Line Identity

- Ability to use Presentation Number in C7
- Easier to replace CLI with alternative in IP networks
- Privacy vs Exploitation
- Additional Measures
 - Anonymous Call Reject
 - Black/White List
- Role of Operators in determining trustworthy CLI
- UK – Specific Number Range where doubtful
- Uganda – regulatory requirement for all calls to carry proper CLI