

ACCELERATING DIGITAL TRANSFORMATION

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Challenges that come with rapid transformation

- Regulations are usually backward looking and therefore will with accelerated transformation we always face issues that were never anticipated!
- Today I would like to sensitize on one issue which the industry refers to as SIM BOXING!





SIM BOXING and its impact on Telecommunication and Govt tax



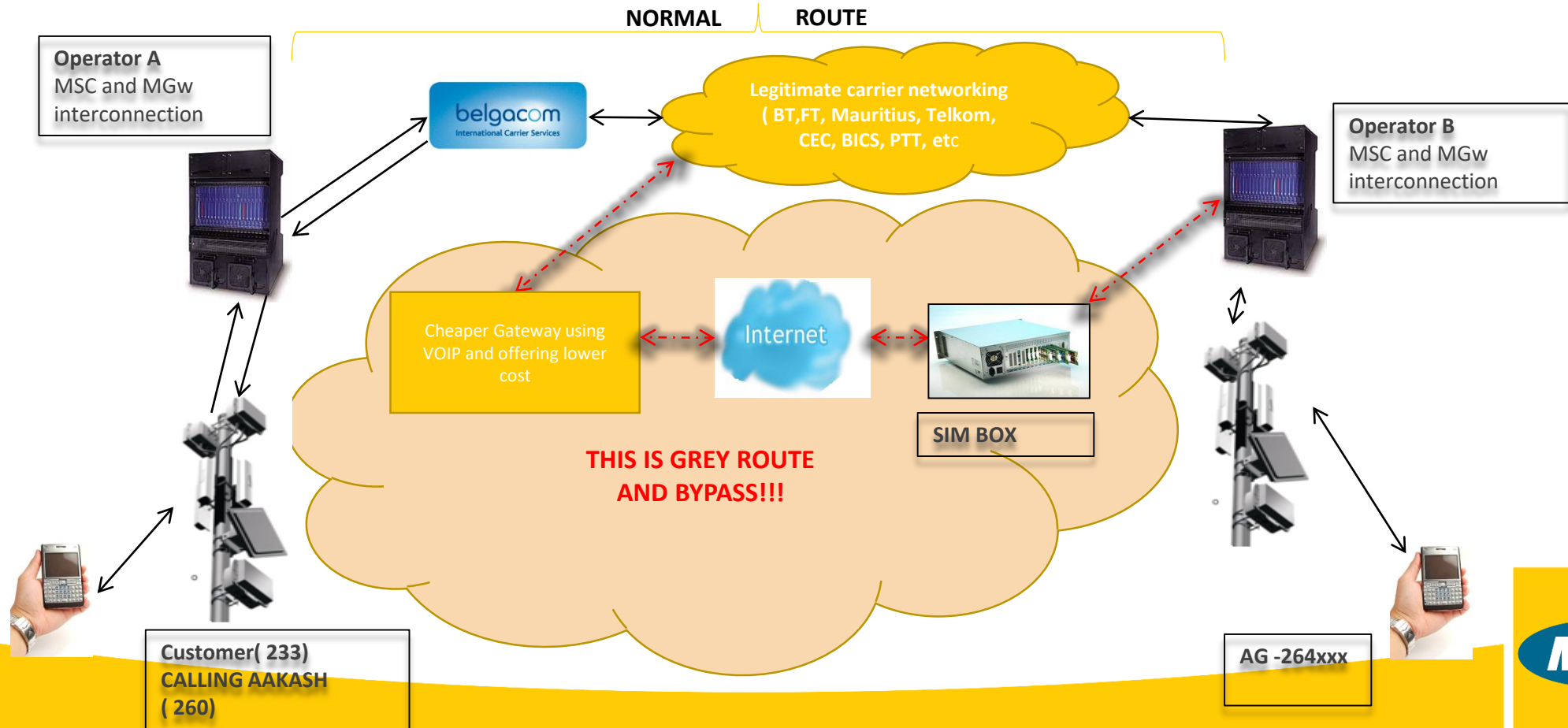
SIM Box Contents

1	SIM BOX- What it is and its effects
2	Challenges to Industry and Country
3	Solutions to detect and combat Sim box
3.1	Alarms and Alerts- generation
3.2	Call test generation and probes Raptor or off the shelf solution.
3.3	Mutual effort between competitors, regulatory and govt. organization.
4	Revenue Impact of Simbox Fraud
5	Example ; Statistics of Captured Simbox Numbers



What is it, and corresponding effects

DEFINITION: SIM Box fraud (alias: bypass, interconnect gateway fraud) are used mainly to route international traffic over internet VOIP and terminate same as local traffic on operator's network. Thus SIM box operators exploit the best retail calling rates by terminating calls via a SIM card in a modem instead of via the regular and authentic international carriers.



Effects and challenges to business and Regulators

Industry Facts: "Figures show that SIM boxes may affect from 3% to 6% of operators' revenue. <http://www.bics.com/content/simbox-detection>

BYPASS FRAUD

KEY CONCERNS to Business..

- Revenue loss
- Quality of service loss.
- Inability to track CLI and caller.
- Call set up issues and back ground noises.
- Roaming wholesale cost increase- in case sim used for sim box.

KEY CONCERNS to Regulators..

- Impact on Subscribers/citizens QoS loss, disruptive services.
- Loss of Controls.
- Loss of best practices and standardisation examples: one world-one Africa Roaming, SADC interconnection or roaming rates.
- Fake Subscriber registration
- Most importantly, Loss of income to National treasury.



Detection methods and Action Plan

Plan may be limited however based on collaboration within GSMA, regulator and Enforcement Agencies can be improved.

Critical Focus Areas

Probes/Test Calling

Data mining- local
machine or Subex

Trunk Analysis

Regulator agreement-
wholesale pricing/retail

ACTIONS

- Test call generation from vendor partners
- Future phases: Supplement by triangulation.
- Utilise off the shelf solutions- Fraud Buster.
- Discuss and put in place action to use MSRN numbers as these are difficult to track.



Detection methods and Action Plan: Continued

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ACTIONS: tool can be configured.

- Ratio analysis of incoming Vs. Outgoing.
- Ratio analysis of B number.
- Local Vs International Calls.
- Timing and Duration Ratio analysis.
- Location Analysis (too much movement or none).
- IMEI analysis (EIR).
- Debt management
- Voucher serial consistency (sequence)
- Logical vouchers utilisation.
- Other.

Detection methods and Action Plan: Continued



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ACTIONS: tool can be configured.

- Validate CDRs for international, local and gateway trunks.
- Alerts from tools should be checked for Local Vs. international trunk.
- International number on local trunks.
- A vendor(FraudBuster) is involved to analyse calls and detect Simbox numbers.



Detection methods and Action Plan: Continued



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ACTIONS: Critical for being more proactive.

- Regulator and law enforcement agencies collaboration.
- Sim box tariff plan creation. Higher rates.
- Utilise GSMA where support is minimal.
- Interact with local operations to understand trends and have common Databases.
- Analysis on benefits of manipulation of wholesale Vs. retail rates. Possible strategic agreements between main operators (major market share holders).



Thank **you**

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