Activities in The Netherlands to mitigate spoofing and smishing

In the European context

STIR/SHAKEN VIRTUAL SUMMIT
Keynote Session

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July 21th 2021
About Vereniging COIN

COIN IS THE DUTCH ASSOCIATION OF TELECOM PROVIDERS

- COIN-members -

• Founded in 1999
  – To support end-to-end interoperability of telecommunications services
  – To contribute to an open telecommunications market in which consumers and businesses can switch telecommunications service provider in an efficient and customer-friendly way
  – To contribute as a sector to secure and reliable digital infrastructure
    • Look into future developments with members
    • Further evolvement of services with members
An association of Dutch telecommunications service providers

About COIN

- COIN engages the industry and stakeholders on common topics and provides a joint platform to set-up and facilitate common business processes with respect to
  - Legal obligations, regulation, self-regulation
  - Cyber security
  - Fraud prevention

- COIN facilitates common business processes
  - Number Portability
  - Operator Switching
  - Emergency services and Directory Services
  - Identity Management

- COIN provides a common high-available infrastructure
  - Central reference database for Dutch telephone numbers
  - Number Portability and Operator switching infrastructure
  - Identity and anti-fraud lookups
  - 112 and Subscriber Information

Services Provided

- Central Reference Database NL (+31)
- Number portability
- Bundle Switching
- 112 and Subscriber Information
- Access
- Identity Management (Mobile Connect)
- 3rd party access to CRDB
- Number shielding
- Routingcodes
- Fraud covenant
- Regional Roaming
The Netherlands and STIR/SHAKEN Call Authentication Framework?

- Robocalls are extremely rare in The Netherlands
- Dutch people still do pick up calls from unknown phone numbers anytime
  - Ban on calling while cycling
- Trust in integrity of numbering high, although
  - SMS phishing
  - Banknumber spoofing
Numbering in The Netherlands

- Ministry of Economic Affairs is legislator for
  - [Dutch Telecommunication Act](#)
  - [Telephone and ISDN Services Numbering Plan](#)
- The Authority for Consumers & Markets (ACM)
  - assigns and withdraws numbers and
  - supervises the usage of numbers

**Numbers in Numbering**
- At year-end 2020 COIN platform Number Portability 155,761,879 contained phone numbers,
- active on 157 network operator codes of COIN members
  - 69 Million geographical numbers for 141 area codes
  - 54 Million mobile telephony numbers
  - 32 Million IoT/M2M numbers
  - 4 Million corporate nomadic numbers
Dutch smishing mitigation actions

Cyber criminals are sending phishing SMS pretending to come from organizations

- Criminals send SMS, SIM based and alphanumeric (spoofing), with phishing links
  - Banks, Ministry of Economic Affairs, ACM, police, taxs authority and message brokers
- Taskforce Smishing COIN and Dutch Payments Association
  - Common action plan and as result, the concerned parties more easily
    • recognize fraud, share information about this with each other
    • move more quickly to interventions, such as
      • blocking websites and phone numbers or
      • tracking by the Police.
    • measuring modus operandi
- Public Private Partnership
  - Public-private cooperation will be set up against fraud by Dutch government, banks, telco’s and other entities
SMS Protection list reduces impact of fraud

- Further steps for smishing mitigation
  - Piloting Sender ID list Subscribers (banks) request to block their number as outgoing A number
    - National permit listing alphanumeric sender ID banks – the sending source operator
    - Typosquatted alphanumeric sender ID’s –list
  - Exploration detection tooling based on pattern recognition
    - Duty of care, privacy and interconnection/interoperability considerations
  - Plans for further development to a registry

- STIR/SHAKEN does not cover SMS/text messaging
  - For smishing similar interest and regulatory environments
  - SMS non-SIP Inter-Carrier technology
  - best authentication method for SMS / text messaging?
Spoofing

Bank helpdesk fraude

- Criminals misuse bank's phone number
  - causing consumer to think receiving a call from the bank
  - consumers are told that there is suspicious activity with their bank account
  - consumers get “support” to “secure” their money
- COIN joined forces with banks and the government
  - Telephone calls with spoofed +31 numbers mainly originate from abroad
  - Operators and banks have taken measures to prevent spoofing of specific telephone numbers
  - Operators and banks work together to signal new routes of spoofed traffic to the Netherlands in an early stage
Improvement of the telecom trust chain

In order to safeguard the continued safe use of telephone numbers

- COIN will facilitate the **telecom trust chain**
  - Facilitating Dutch **interworking and standardization**
  - Reliable data resources around **Central Reference Data Base (CRDB)**
  - Facilitating dialogue about a Dutch telecom bill that aims to improve the effectiveness of policy and supervision for the benefit of consumer protection and competition.

- **Sub-allocation and number hosting**: Rules about making numbers assigned by ACM available to other telecom providers
- **Extraterritorial use E.164**: Possibilities for permanent use of Dutch numbers abroad, while preserving the principle that extraterritorial use of numbers for interpersonal communication is prohibited;
- **CLI rules**: Detailed rules for the use of number identification/number porting to provide more clarity about possibilities of cases of abuse by falsifying CLI information.

Source: welkomingouda.nl
Mitigating of spoofing and smishing in the European context

- The European Union and E.164 Country Codes
  - European Digital Single Market
  - 446 million people
  - 27 countries/numbering plans
- Implementation new regulatory framework European Electronic Communications Code (EECC)
  - General authorization of providers of the electronic communications networks and services
  - Pan European networks
- Only some national initiatives for STIR/SHAKEN
  - Countries focus on interfering on national numbers in international routes from operators that have no national numbers
  - Mechanism defined in ATIS-1000087 standard allow various arrangements (bilateral agreements, regional organization, and industry association) to coexist for the circumstances of the participating countries.

Source: wiki
Long term measures Telephony Number Spoofing in European perspective

- CEPT EEC NaN (48 countries)
  - Written ECC Report 275 on the role of E.164 numbers in international fraud and misuse of electronic communications services (2018) and recommendation with measures
  - Writing ECC Report on CLI spoofing (legal aspects, possible technical measures to verify/authenticate CLI, operational impact)
  - Request to ETSI to report on the technical, operational, standardization and cost aspects of the different possible solutions (STIR/SHAKEN, blockchain, Solid, ...)

- BEREC
  - Launched Database of numbering resources with a right of extraterritorial use within the European Union
  - Workshop on Fraud & Misuse of the E.164 number range
    - Cross border regulatory cooperation in the intervention by the regulators or other relevant national authorities in cases of fraud or misuse
Long term measures Telephony Number Spoofing in European perspective

- **ETSI (Europees Telecommunication and Standaardisatie Instituut )**
  - NTECH Work Item on “Calling Line Identity (CLI) Spoofing”
  - directly promoted by ECC WG NaN, a report that will address the technical, operational, standardization and cost aspects of the different possible solutions (STIR/SHAKEN, blockchain, Solid, ...)
- 4 **supporting** ETSI members like regulators, operators, manufactures are lacking
- **European Commission**
  - Delegated Regulation EU harmonized max. terminating rates, (recital 15); “…Operators not be bound to apply Union-wide termination rates to termination of calls if CLI is missing, invalid or fraudulent.”
  - Actively follows the standardization activities of ETSI and is present as “counsellor” in the ETSI board.
  - Sectorial member of ITU-T and participate in TSAG (Telecommunication Standardization Advisory Group)
- **Europol**
  - Smishing and Vishing awareness campaigns (supporting European Cybersecurity Month)
Questions?

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