



Glyn Povah

Group Head of Product, Mobile Identity, LUCA,
Telefónica

Digital Identity

SIM Swap Global Product Strategy

Telefónica Group

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Getting started...2015

- Customer led opportunity with large UK retail bank led us to investigate further their requirements
- They were delivering OTPs via voice and had seen growth in account takeover frauds via socially engineered fraudulent SIM Swaps
- There was already a tactical, non-legitimate solution in the UK market offered by some providers called “baselining” which helped but was sub-optimal in many ways
- Telefónica and O2 did not endorse the “baselining” but we understood that the banks were looking for a better, legitimate solution with service wrap and with proper data protection compliance by all parties
- We decided to make a Capex investment to build and deploy the first legitimate “timestamp” SIM Swap” service to be made available via API in UK from O2

Very challenging early days...but the right thing to do

- Even after securing scarce Capex for investment we needed to secure even scarcer roadmap prioritisation to get access to the relevant network data feeds
- In parallel we made the investment to develop an API platform and API services to offer to service providers
- Personal experience of being a victim of account takeover....terrifying!
- Instinctively though we knew this was the right thing to do for O2 customers and businesses to help them reduce account takeover and SIM Swap frauds
- Very close collaboration with O2 Fraud & Security team who in parallel worked with the business to continually review and tighten security procedures and processes for genuine customers who need to do genuine SIM Swaps
- Close collaboration via GSMA with other MNOs to develop whole market coverage
- Due to the human element of Social Engineering we also wanted to give service providers best way to protect themselves and their customers with commercial SIM Swap API

SIM Swap Fraud: how is it executed?



What we set out to achieve

- Development and deployment of a legitimate full commercial MNO SIM Swap API service as a way for service providers to instantly check the time of the last SIM Swap for a given mobile phone number (MSISDN)
- To have the same legitimate capability available on all MNOs in a given market (e.g. UK first)
- Kill the grey market and illegitimate access to any HLR data -> data protection compliance
- Strong agreements with contracted partners for use of the service and data protection
- Solid product offering enabled by high performance platform offering high availability, high capacity and low latency
- Solid Enterprise grade service and support wrap (24/7 365) for the product
- Well thought through product, considering all the edge cases with the view of minimising false positives and eliminating false negatives
- Protecting 30 million O2 customers online from fraud and cyber crime, in this case account takeovers via fraudulent SIM Swaps

What we cooked up

The screenshot shows the SMARTDIGITS API documentation for the SIM Swap endpoint. The page includes the API logo, the endpoint name 'SIM Swap' with a version indicator '7', and the base URL. It provides a description of the endpoint's function and links to an overview, terms of service, and support. A navigation bar at the bottom of the page contains an 'AUTHORISE' button with a lock icon. The main content area is divided into sections for the endpoint details and parameters. The endpoint details section shows the HTTP method 'GET' and the path '/simswap/v7'. The parameters section includes a table with columns for 'Name' and 'Description'. The 'msisdn' parameter is marked as required and has a detailed description.

SMARTDIGITS API

SIM Swap⁷

[Base URL: /dormer/v1/service]

Returns the timestamp of the last known MSISDN/IMSI pairing change.

[Smart Digits ATP Overview](#)

[Terms of service](#)

[Contact support](#)

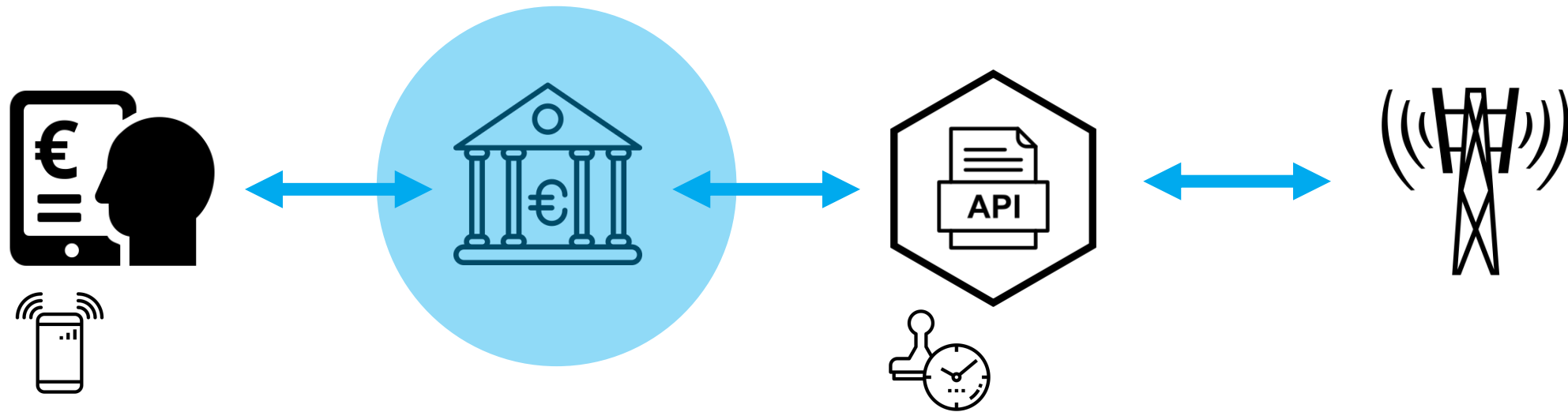
GET /**simswap/v7** Get the timestamp of the last known MSISDN/IMSI pairing change.

Get the timestamp of the last known MSISDN/IMSI pairing change.

Parameters

Name	Description
msisdn <small>* required</small> number	MSISDN parameter must follow the international number according to the E.164 ITU-T recommendation without the "+" sign at the beginning.

SIM Swap API: How does it work for service providers?



How it started, how it's going



What next?

- Rolling out Commercial Sim Swap API service across Telefónica...live in Spain now with other countries to follow
- Its our mission to have as many service providers and consumers benefit from the service and protect SMS OTPs so we want to see the product much more widely used across multiple different use-cases and verticals
- SMS OTP still very relevant as 2FA. For many customers who have no 2FA on their accounts, adding SMS OTP 2FA still makes them much, much better protected from account takeover fraud
- SMS OTP still the go-to possession 2FA for its ubiquity, simplicity and ease of deployment BUT
- Telefónica along with other MNOs are launching an evolution 2FA possession product called **Number Verify** which allows SPs to seamlessly and securely authenticate their users in mobile apps or web
- We're also investing in new product development, leveraging unique Telco data insights, to fight other significant growth frauds, e.g. Authorised Push Payment (APP) scams, where last year banks in UK had losses of £455.8 million