



**adaptivemobile**<sup>TM</sup>  
trusted network protection

## SIM Bank Detection

### The Insider Threat - Stopping Revenue Leakage at the Source

A Tier 1 operator in the United States needed to detect and block large amounts of outbound national and international grey route traffic. This traffic was being generated by service gateways present in their own network; service gateways are executed through SIM banks, which are groups of numbers that send service or marketing content to large amounts of recipients. These are not illegal messages, but rather network traffic being sent from operator networks that is in breach of an operator's terms and conditions.

The top-tier US operator needed assistance in blocking these service gateways. Based on the strength of an existing relationship, AdaptiveMobile and the US operator worked to determine a solution.

Through the AdaptiveMobile Network Protection Platform, the operator was able to detect and block this traffic and reduce message termination fees from other operators, enabling the operator to charge for these messages and effectively control the route of traffic.

The subsequent results and financial benefits seen by the operator were substantial. Given a standard termination fee of \$0.10 USD per message, after implementation of AdaptiveMobile's NPP the operator recaptured in excess of \$50,000 USD per month.

## Overview

**Situation:** Tier 1 operator in the US needed to detect and block outbound grey route traffic originating at SIM Banks in their network

**Solution:** AdaptiveMobile SIM Bank Detection Service

**Success:** Significant reduction of interconnect termination fees  
Enabled savings in excess of \$50,000 USD / month  
Blocked major SIM Banks within their network

**Impact:** The mobile operator was able to detect and block the SIM Banks that were sending this illegitimate domestic and international messaging traffic.

## Customer Details

The customer is a leading mobile network operator in the United States providing a broad range of voice, messaging and data services. The operator has been a customer of AdaptiveMobile for three years, having deployed the AdaptiveMobile Network Protection Platform (NPP) to handle messaging threats in 2012. After successfully deploying AdaptiveMobile's NPP, they used the strength of this existing relationship to handle the illegitimate network traffic being sent through service gateways.

## The Situation

The operator was facing unusually high domestic and international outbound SMS termination fees, caused by large volumes of illegitimate messaging traffic originating in their network, and was looking to significantly reduce these termination fees.

A SIM Bank is a device that can hold a large number of SIM cards - these SIMs are then used to send service or marketing content to a large number of recipients. The recipients are typically normal subscribers in carrier networks who wish to receive Two Factor Authentication (2FA) codes, marketing messages, and other Application-to-Person (A2P) messages via SMS. The traffic can be sent both nationally and internationally from an operator's network and bypasses the operator's standard business offerings (that typically use short codes). This traffic causes extra termination fees which impacts the originating operator financially, especially in international cases.

The content of SIM Bank traffic is generally not malicious as it consists mainly of marketing and service messages; however,

this is sending content to large amounts of recipients through SIMs that are not intended for commercial use, thus are typically in breach of an operator's Terms & Conditions.

SIM banks can be quite large with 300-400 SIMs under the control of a single individual, and are cleverly managed to keep the volumes under the threshold of the operator's fraud detection systems. Many SIMs are kept in reserve for automatic use in the event of the primary SIMs being disconnected.

The operator's objective was to detect and block this service gateway traffic in order to lower termination fees from their operator partners.

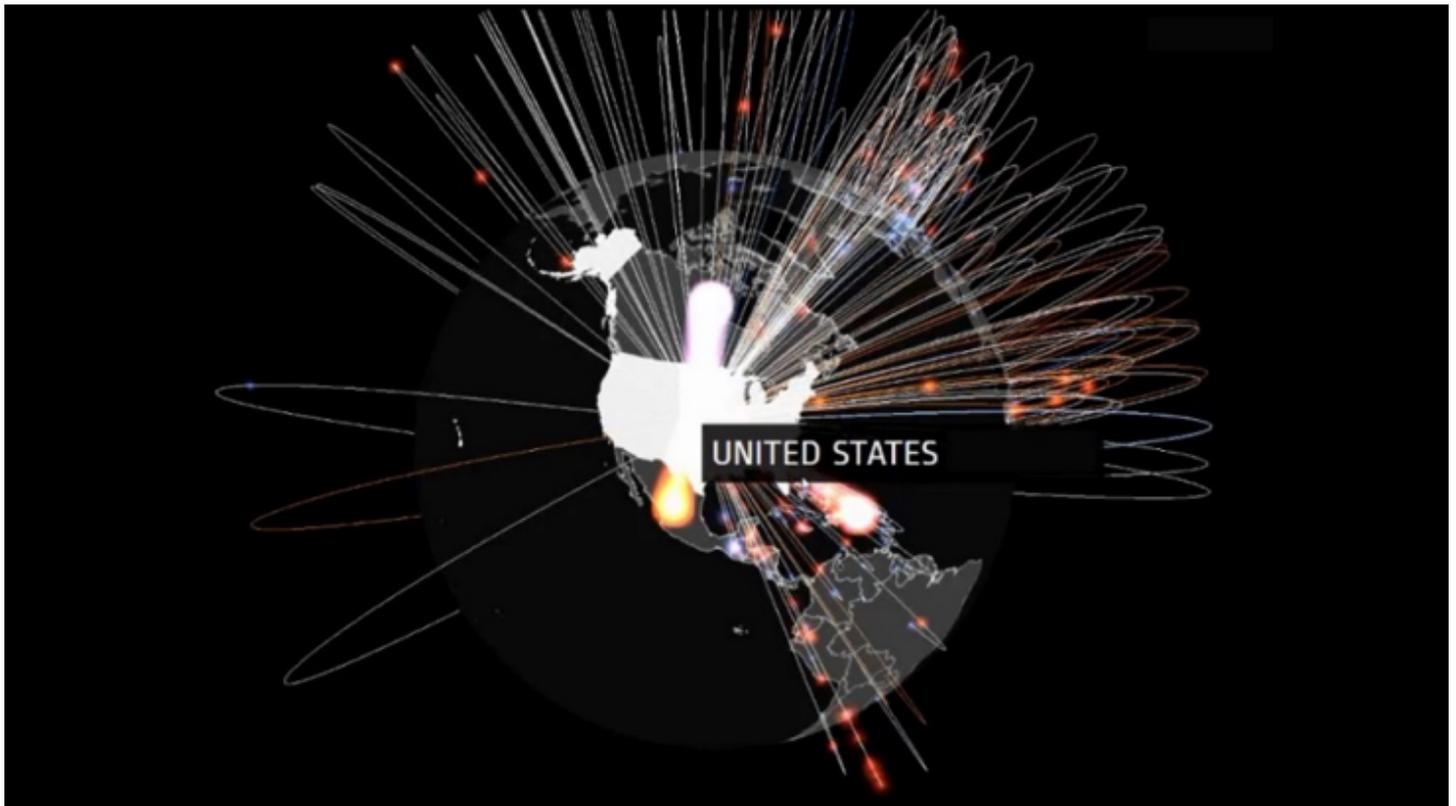


Figure 1: Example SIM Bank Generated Traffic – United States

# The Choice: AdaptiveMobile

The solution chosen was the AdaptiveMobile SIM Bank Detection service, a managed mobile intelligence service offered by the AdaptiveMobile Threat Intelligence Unit that is available in conjunction with the AdaptiveMobile Network Protection Platform.

1. The Threat Intelligence Unit (TIU) is a team of industry leading security experts dedicated to enhancing mobile messaging security through intelligence gathered from the 75+ deployments of the Company's industry leading NPP platform with operators around the world.

2. AdaptiveMobile deploys its services through sophisticated high precision Network Protection Platform (NPP) enabling it to block illegitimate traffic. The Company does this through next generation analytics, which allows blocking even when traffic is coming from rapidly changes sources or compromised legitimate sources.

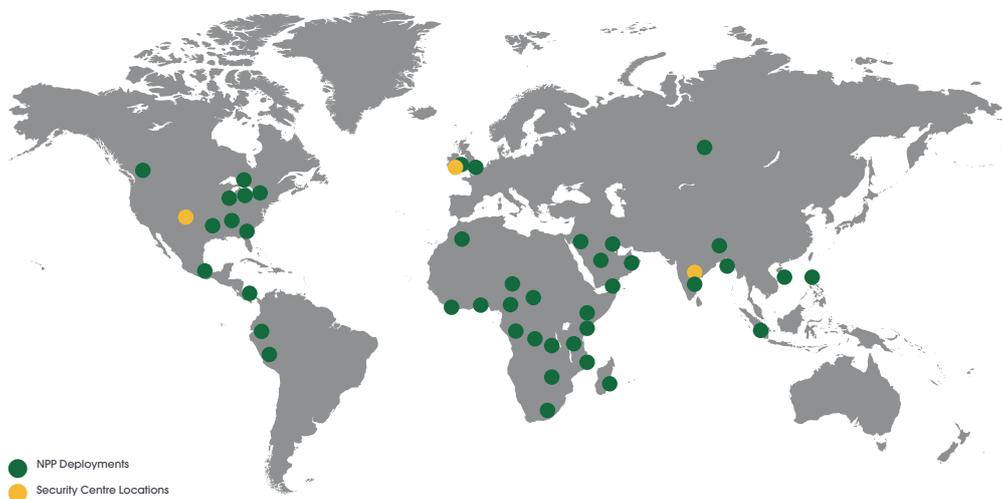


Figure 2: Worldwide NPP and Security Centre Deployments

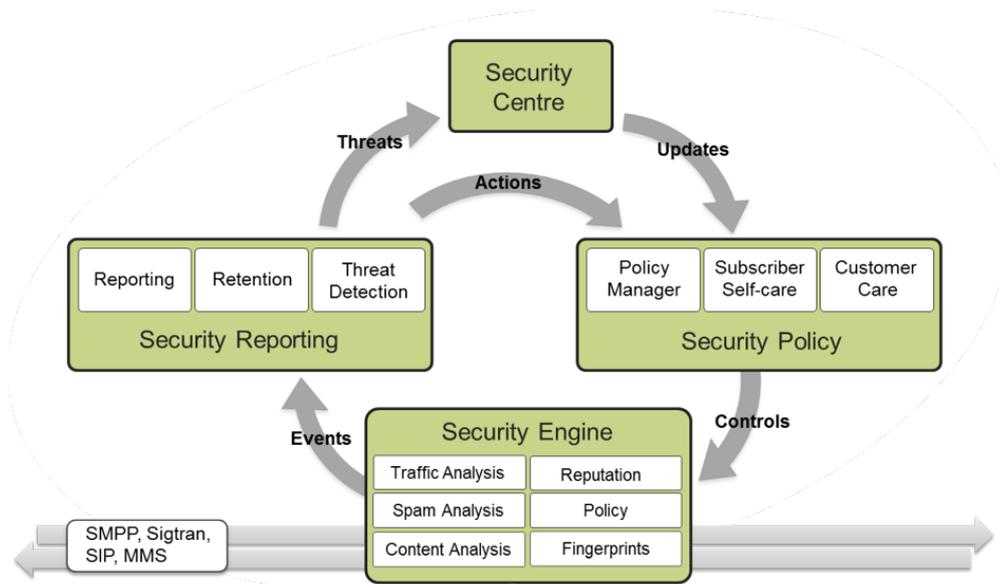


Figure 3: Network Protection Platform (NPP) Architecture

# The Solution

The blocking of legitimate traffic had proven to be a problem with legacy SMS firewalls. An effective solution needed to be able to block unwanted behaviour from rapidly changing sources and compromised allowable sources, without sacrificing the delivery of legitimate traffic.

## **AdaptiveMobile: Per-Message Content Based Control:**

No matter where the illegitimate traffic moves to, the operator remains protected and there is no blocking of revenue generating legitimate routes. The AdaptiveMobile solution is designed to anticipate potential strategy changes from the service providers in advance, enabling the Company to work faster than the providers can move and ultimately give the operator complete control.

## **AdaptiveMobile: Automatic Content Discovery:**

Proactively identifying new brands, new campaigns, new content and new route sources, and responding to these immediately upon validation. Given the strength of AdaptiveMobile's existing relationship with the operator, the Company was the natural choice to respond to this situation and address the revenue leakage the operator was facing.

# Success

This approach enabled the mobile operator to detect and block the SIM Banks that were sending the unwanted international messaging traffic. By working with the operator, AdaptiveMobile was able to significantly reduce the interconnect termination fees associated with these service gateways, saving the top-tier operator approximately \$53,391.86 USD per month.

Aside from the financial benefits, there is a strong partnership between the US operator and AdaptiveMobile, complementing their technical expertise. Because of AdaptiveMobile's unique and proven solution, the operator was able to quickly identify and update their security measures, thus protecting themselves from financial exploitation and, most importantly, protecting their subscribers.

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For discussion of typical use cases, overview of AdaptiveMobile's existing deployments or a full walkthrough of service provider experience, contact your local office:

[www.adaptivemobile.com/contact-us](http://www.adaptivemobile.com/contact-us)

## **Who is AdaptiveMobile**

AdaptiveMobile is the world leader in mobile network security, protecting some of the world's largest operators at the heart of their networks from the growing threat of mobile abuse. Currently protecting over 1.3 billion subscribers worldwide, it is the only mobile security company offering products designed to protect all services on both fixed and mobile networks. Providing a sophisticated, revenue-generating security-as-a-service portfolio, AdaptiveMobile empowers consumers and enterprises alike to take greater control of their own security.