esendex

What is Grey Routing?

Why should buyers of business SMS care?

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So What is Grey Routing?

It's the practice of exploiting a mobile phone network vulnerability which allows SMS traffic to travel for free between international operators. Your message could originate in Australia, and be intended for an Australian handset, but by transmitting via selected international networks, it can travel around the world, and come back to be delivered to Australian networks at very little cost.

Learn more

Sounds great – what's the problem? Is it illegal?

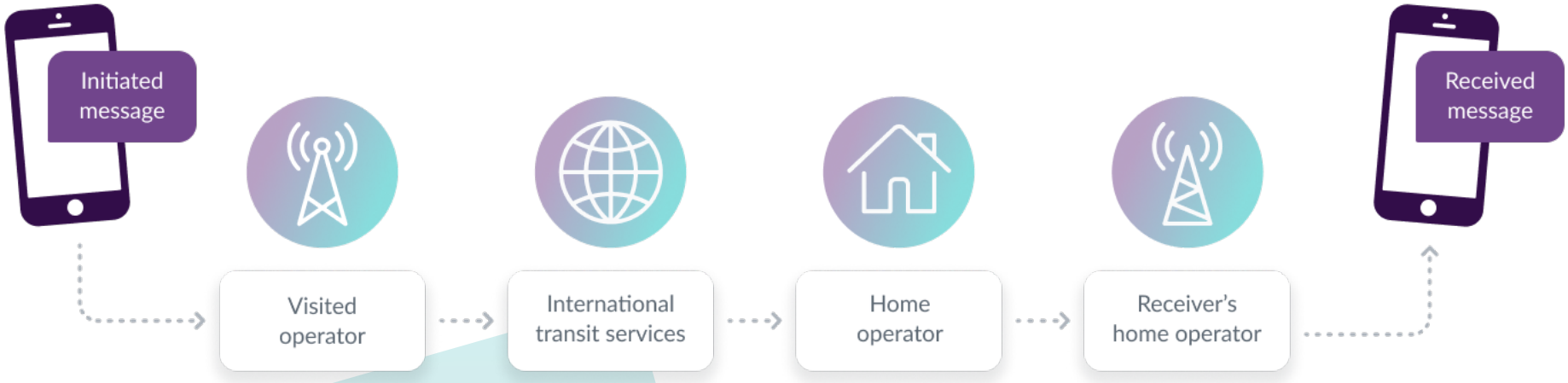
Technically, no. Roaming connections designed to allow individuals to continue to use their phones while travelling abroad exist between almost every country on earth.

Where there's a relatively large amount of messages passing back and forth between two countries, the network operators will come to an 'wholesale roaming agreement' so there's transparency over the volume of messages being handled, and every party can be properly compensated for handling them.

However, if there isn't a great deal of traffic between two countries, this agreement may not exist. In that scenario, a roaming connection allows the messages and calls to pass from one operator to the other but without money changing hands. The international gateway exchange mechanism is completely bypassed.

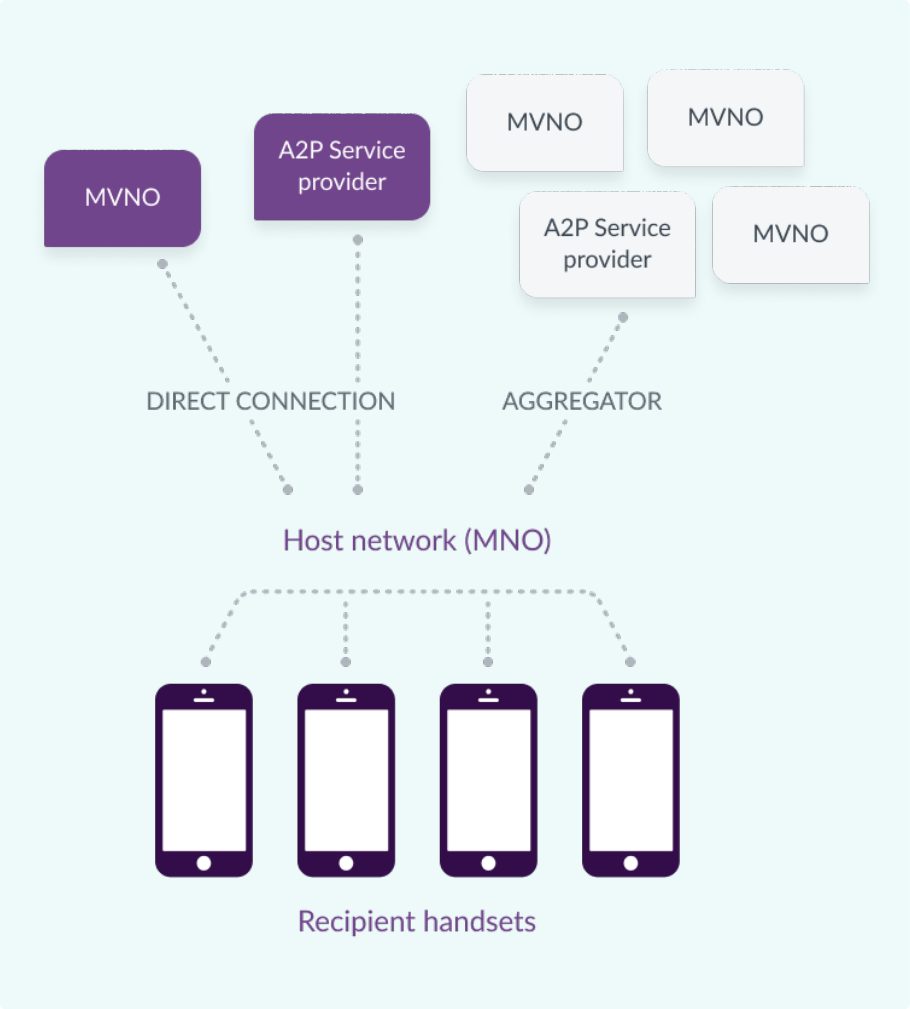
If the message volume stays low, is limited to person-to-person (P2P) traffic, no harm, no foul.

However, there is little to prevent an aggregator exploiting this loophole to send high volumes of business traffic for very little cost.



Overview of international roaming technology and operations

About aggregators and MVNOs



In most countries there are a handful of mobile network operators (MNOs - also variously known as **host networks** and mobile carriers) - in the UK, they are BT, O2, Three and Vodafone - and a number of virtual network operators, or MVNOs, who will have their own value proposition for customers, but ultimately send their messages via the host networks.

Giffgaff, Tesco Mobile, TalkTalk, Sky and Virgin Mobile are all MVNOs.

There are approximately **1,000 MVNOs** worldwide, accounting for more than 10 per cent of all mobile users with the market expected to grow at a CAGR of 7.4% during the period 2022-2030.[1] They provide much-needed competition in the marketplace, driving better deals for customers.

An aggregator acts as a middleman between smaller MVNOs and companies who offer business SMS services, and the host networks.

They exist because, as a rule, the host networks prefer to have a few companies sending large amounts of SMS traffic to them, as opposed to many companies sending smaller volumes of traffic. Aggregators fulfil this role by combining the traffic from multiple companies.

In addition, aggregators are often able to negotiate a better price with the host network, so it can be less expensive to send messages through an aggregator.

However, if the MVNO or service provider generates sufficient message volume, they will be able to transmit their messages directly via the host networks, and these are called ‘direct connections’.

1. https://www.businesswire.com/news/home/20220831005481/en/Global-Mobile-Virtual-Network-Operator-Market-Report-to-2030---Europe-Takes-the-Lions-Share---ResearchAndMarkets.com

Why do the networks care?

Host networks do not want **business SMS traffic** (known as Application to Person, or A2P) to be routed through countries where there is no wholesale roaming agreement, as they won't be properly compensated for delivering the message to the recipient's handset.

Host networks have specific routes set up for business traffic, and they want all business traffic to flow through these routes, not only so that they are paid for the messages, but also so that they can protect customers against poor service (more about that later) and spam.

But not wanting this to happen is not the same as not allowing it. The practice of what has come to be known as 'grey routing' is rife, as these quotes illustrate:

"Grey route traffic is **the biggest cause of lost revenue** in the A2P messaging sector."

"Some estimates suggest **up to 45% of all A2P messaging is being sent via these routes**, with MNO's missing out on billions of dollars in revenue."[2]

There are tell tale signs but most people don't know enough about the issue.

You can pay for your SMS to be sent, and that price might cover sending the message through a specified, monetised, business route. But an unscrupulous aggregator could be re-routing your messages through inexpensive grey routes not intended for business traffic, and retaining the extra profit.

2. https://haud.com/revenue-supercharger/2021/11/17/chapter-1-mro/

Seriously, who cares?

Learn more

As long as most of your messages get delivered, and you're not actually breaking the law, why should you care what routes your message gets sent down?

It depends how much you care about the following:

The security of the message and the personal details of the customers you're contacting.

The assurance that the message will be delivered.

The speed at which your messages are delivered.

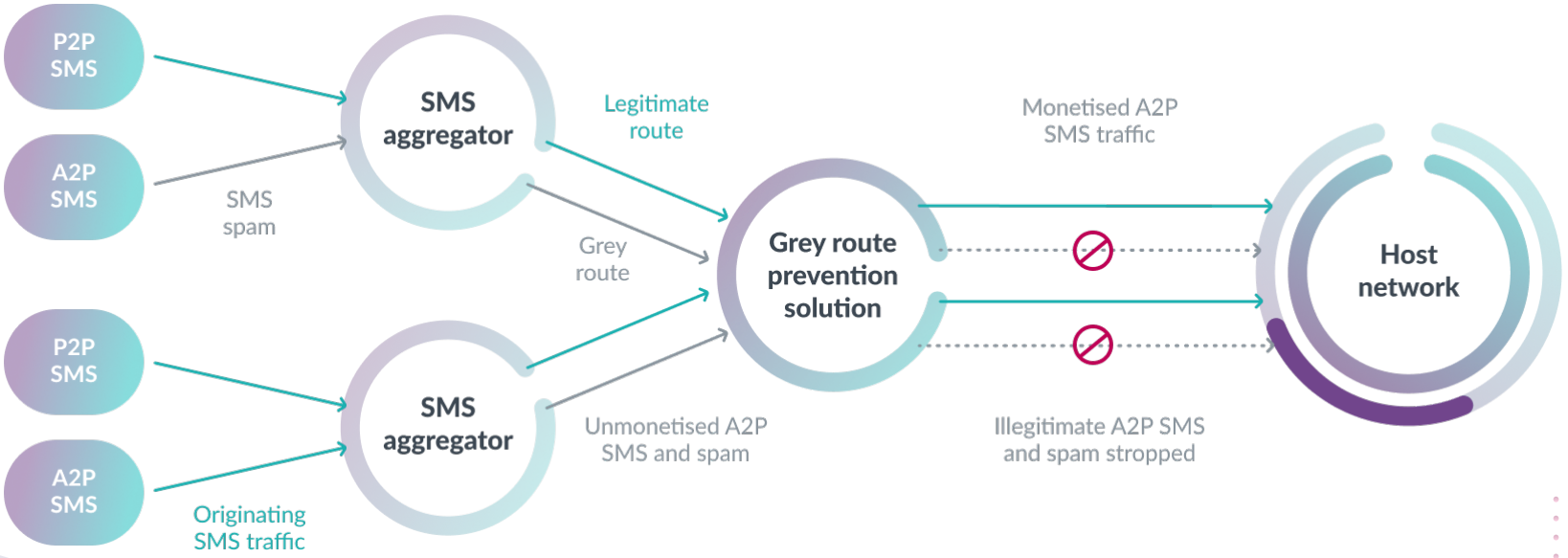
All of these things are compromised when your messages are transmitted via grey routes, because the messages are bounced around several host networks in several countries, and lose any data protection or delivery guarantees in the process.

What's more, it's possible that your messages may be stopped altogether.

The networks are taking action

Operators are working hard to implement solutions to filter out SMS grey routes and shift this traffic to the appropriate chargeable channels.

These solutions range in price, complexity and effectiveness, but their aim is the same: close down grey routes as soon as they're identified.



It is estimated that **2.02 trillion** A2P SMS messages were sent in 2020, an average of over **5.52 billion messages per day**, so converting grey route traffic into white route traffic is a highly profitable exercise for the host networks.[3]

3. https://mobileecosystemforum.com/2021/09/29/mobile-operators-a2p-sms-tracking-the-evolution-in-fraud/#:~:text=2.02%20trillion%20A2P%20SMS%20messages,7.18%20billion%20messages%20per%20day.

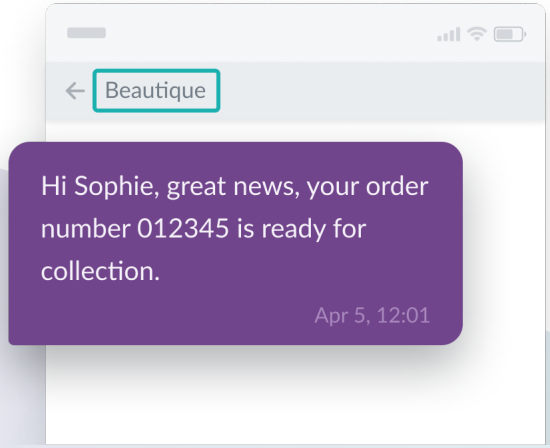
How can the host networks tell whether a message is from a person or an application/business?

They're looking for:

Sender IDs

Where you change the sender from a mobile number to a name. This is the clearest indicator that the message has been sent from a business, and **should** be going through a route intended for business messages.

It's worth noting that when your messages are grey routed, the Sender ID can be changed without you knowing.



Example of a sender ID.

Keywords

Certain 'sensitive' words may trigger alerts.

Duplicate messages

Where the same content is sent to multiple recipients. This is usually a marketing message (or could be spam / phishing); if it's going down a route not intended for these sorts of messages, it's vulnerable to being closed down.

There are more sophisticated algorithms in play, too, but these are the obvious red flags.

How can you tell if your messages are being grey routed?

Learn more ›

The most obvious indicator is price. It's much cheaper to send messages through the routes intended for personal (P2P) traffic, so if you have been quoted a very cheap price, there is a good chance that your messages will be grey routed.

How to be sure:

Ask your SMS service provider whether they use grey routes at all. The only way they can be 100% sure is by only utilising direct connections with the host networks.

If they utilise aggregators, the aggregator may opt to use a grey route to transmit the message.

Esendex prefers direct connections, but we use top-tier aggregators where it makes economical sense. We consistently monitor their performance to ensure that they are not using grey routes to send our customers' traffic.

Esendex Tip: Some SMS service providers have direct connections to the host networks, but choose not to use them in favour of cheaper messages transmitted through grey routes. Don't assume that because they say they have direct connections, that these are actually being used!

Another obvious indication of a grey route is the **speed and reliability of message delivery**.

How to be sure:

Test out the provider's system and if there is a significant delay between the sending of your message, and receipt to the handset, it may be that the SMS provider is using a grey route. If the message isn't delivered at all, that's another alarm bell.

Even direct connections to host networks are sometimes subject to delays, though - think about the difficulty of sending personal SMS on New Year's Eve!

Again this is something Esendex's engineers monitor constantly, and they'll re-route traffic to another host network if a particular network starts to struggle. Esendex absorbs any extra costs, as expedient delivery of messages is hugely important to our customers.

About Esendex

Creating conversation and true engagement with customer-led communications.

From **SMS**, and **WhatsApp** to **multi-channel mobile journeys**, Esendex helps you deliver business messaging that puts the power in your customers' hands.

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