

What is grey routing?

Why should buyers of business SMS care?



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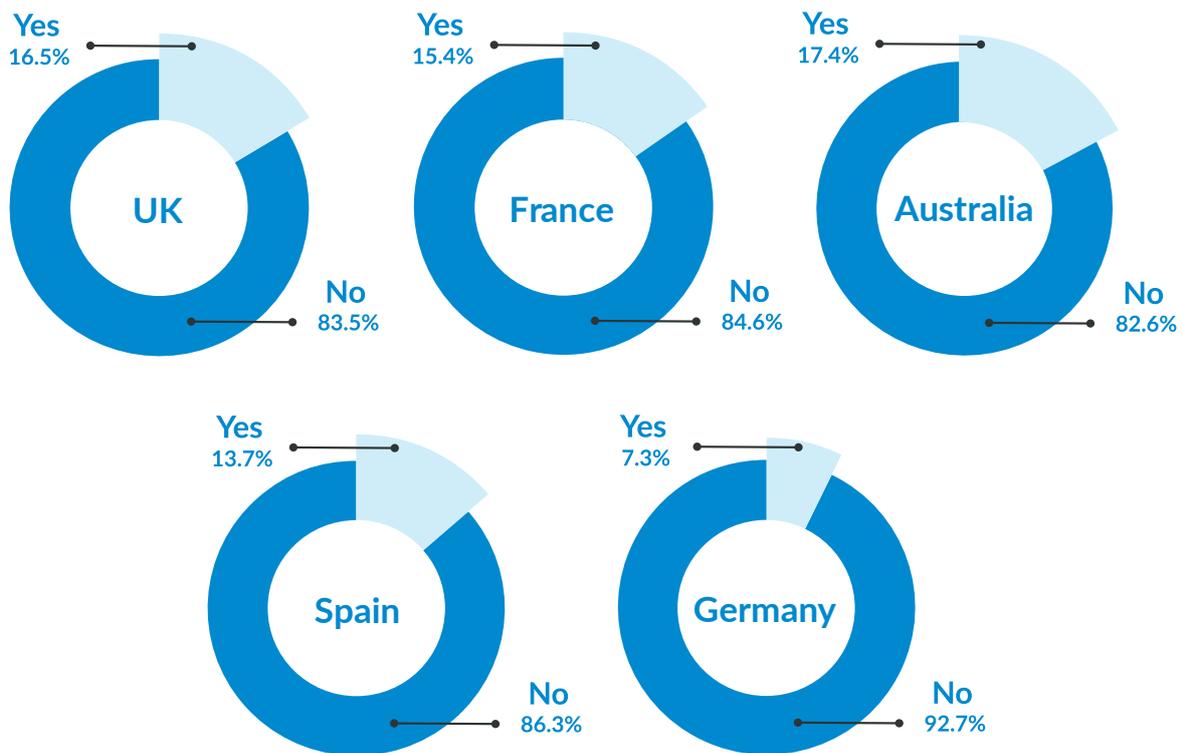
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Who knows?

I wasn't familiar with the term 'grey routing' before entering the telecommunications industry; as a marketing manager in charge of purchasing SMS to send promotional messages, I was looking for a professional looking website, an easy to use web platform, and a cheap price.

It turns out that I'm far from alone. We conducted a survey of visitors to the Esendex brochure sites,¹ and asked them:

Do you know what is meant by 'grey routing'?



Visitors to the Esendex website are usually there to research SMS providers, or purchase SMS, and yet this data illustrates that most are not aware of a critical quality distinction that exists between one service provider and the next. Their only point of differentiation is price.

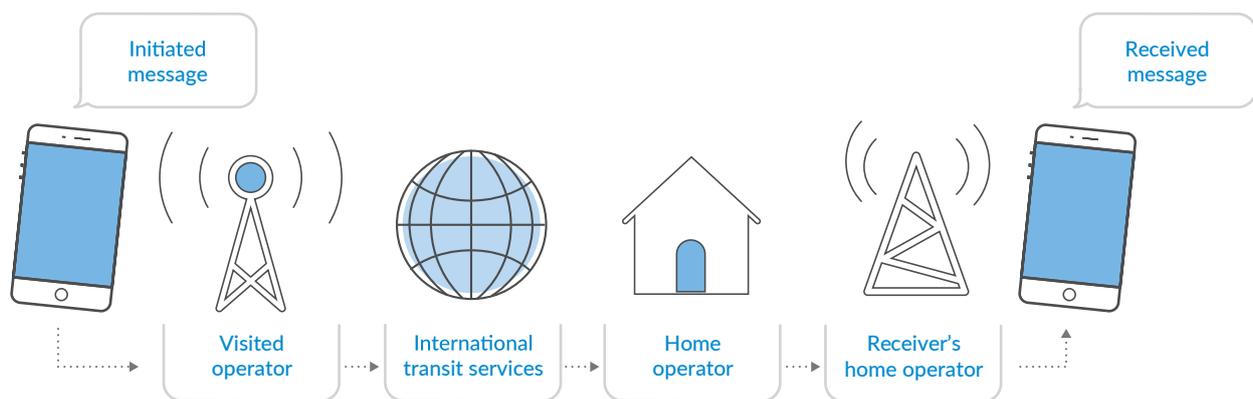
OK, so what is grey routing?

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 the Australian networks at very little cost.

► 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.



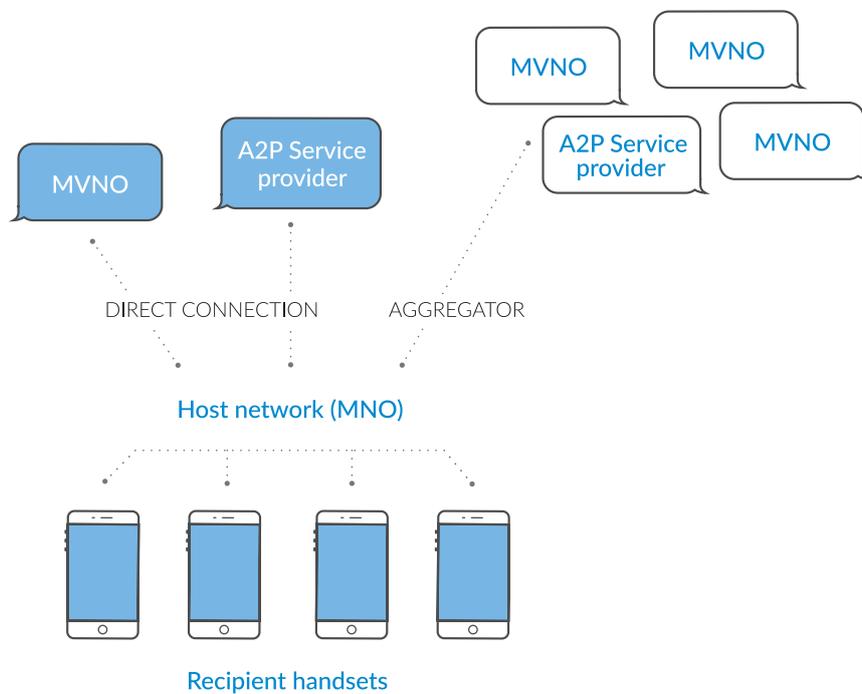
Overview of international roaming technology and operations

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, and 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 low cost.

► 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 Australia, they are Telstra, Optus, 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.

ALDI mobile, Amaysim, Coles Mobile, Lebara and Exetel are all MVNOs.

The GSMA estimates that there were **1,017 MVNOs** active in June 2015.² 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 wish 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'.

Still not seeing the issue here...

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:

The combined amount of industry revenue leakage related to grey route messaging could reach as high as \$82.14 billion by 2020.³

“One aggregator has an agreement to send 300 million A2P messages a month via a small operator in the Caribbean,”⁴

Paul Garner, global director of sales for Dialogue

The businesses whose traffic is being sent down grey routes quite probably have no idea. There are tell-tale signs, but as our survey showed, most people don't know enough about the issue in order to look for evidence of grey routes.

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.

Seriously, who cares?

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?

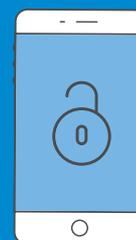
It depends how much you care about the following:



The speed at which your messages are delivered



The reliability that the message will be delivered



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

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.

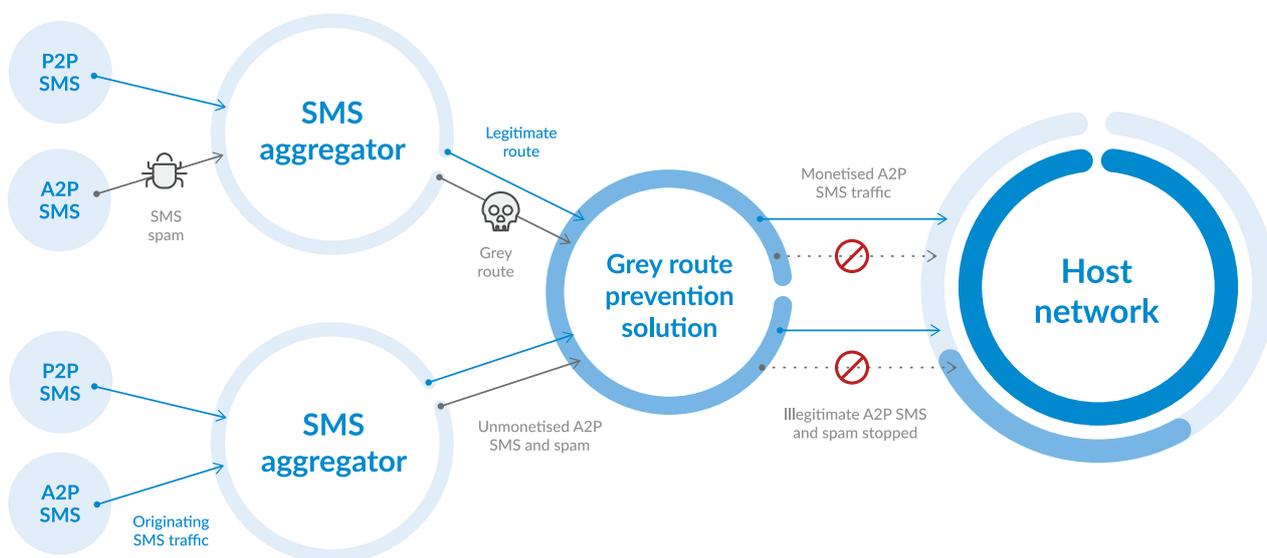
► The networks are taking action

In January 2017, **15%** of host networks were utilising solutions to prevent grey routing messaging fraud (by which they mean, business SMS that's not going through an intended business route, and spam). By 2020, that number is expected to be **50%**.⁵

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

P2P: person to person, i.e. personal SMS and calls

A2P: application to person, i.e. business communication



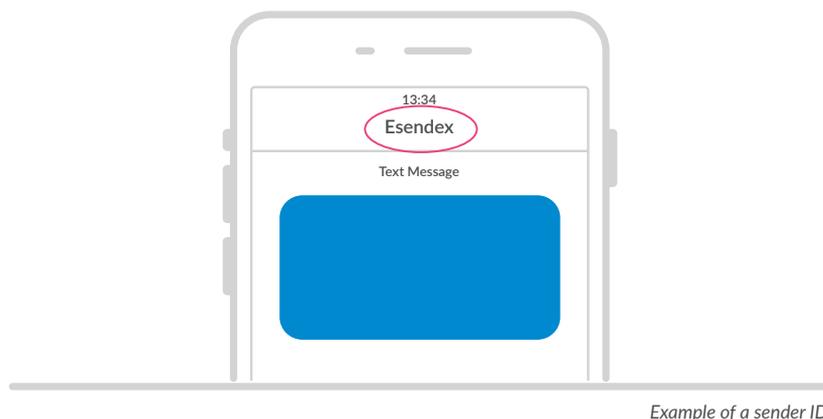
It's estimated that **2.21 trillion** A2P (business) messages will be sent every day in 2017, representing **31.3%** of total messaging traffic,⁶ so converting grey route traffic into white route traffic is a highly profitable exercise for the host networks.

► **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?

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 reliably used!*

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

► **How to be sure:**

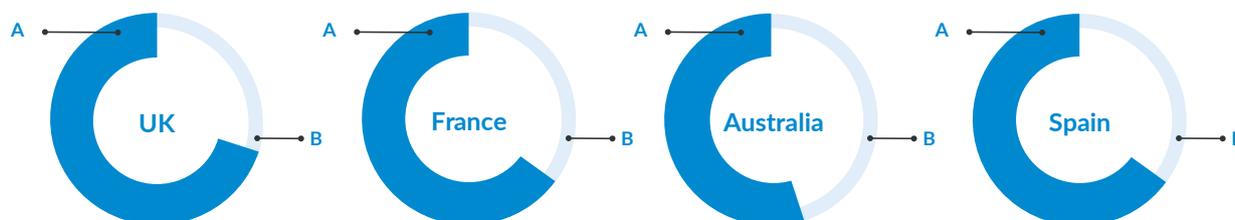
Test out the provider's system and if there is a significant delay between the sending of your message, and receipt to the handset, it may be that the SMS provider is using a grey route. If the message isn't delivered at all, that's another alarm bell.

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.

Attitudes to grey routing by country

We asked visitors to our websites in the UK, France, Australia and Spain whether reliable and secure delivery of their messages (A) was more important than the price (B), and the results were:



Hopefully, having read this white paper, you're now aware that the delivery of business SMS is far from a level playing field. As a buyer, you have ultimate control over whether to risk a grey route, or opt for sureties over message deliverability, speed and security.

About Esendex

Esendex is a mobile business communications provider helping thousands of customers worldwide.

We offer 1-2-1 account management to help you get the best out of your SMS campaigns, and have direct network connections to all of the major networks, meaning that your messages will be delivered quickly, securely and reliably.

To contact your account manager:

 Call **1300 764 946**

 Visit www.esendex.com.au where our agents are available on [LiveChat](#) (office hours only).



Designed and published by Esendex Australia Pty Ltd.

ABN 82 113 596 580