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4G - what's it all about?

With last year's launch of 4G services from EE, O2, Vodafone and Three, it's probably fitting for us to spend a few minutes explaining what 4G is all about.

It's fair to say that 4G had been promoted heavily in the consumer arena, but when we start to think about what 4G can mean for business… that's when things start to get really interesting.

With more and more businesses relying on mobile data for Internet services, applications and email, you can bet that 4G will speed things up and save you time.

WHAT IS 4G?

Long Term Evolution (LTE), or 4G as it's more commonly known, is the fourth generation of mobile communication technology standards following 3G and 2G. Existing mobile networks use a combination of 2G and 3G technology. 2G is used for making calls and 3G makes accessing the Internet through your mobile device easier.

Given that 3G is now over 10 years old, the technology is struggling to cope with the demands of today's data hungry users.

4G is the next stage in the development of mobile networks in the UK and provides users with much faster data speeds than 3G. Not only do you benefit with fast mobile Internet and data services, the networks have freed up capacity in the 2G and 3G networks to handle more voice traffic, making sure we all stay connected.

HOW CAN 4G BENEFIT MY BUSINESS?

Put simply, 4G allows you to do more in less time.

If you use 3G and have been frustrated with slow data, 4G may be the solution. In general, anything involving transferring large amounts of data gets a big boost from 4G. Browsing websites, streaming video, downloading documents, accessing cloud services, mapping on the move, email. Gone are the days of hunting down a decent WiFi hotspot before attempting a hefty download. You can be sat on the train, in your car or in a coffee shop. You can enable your whole team to work smarter, work faster and work harder while on the move.

4G speeds aren't limited to just handsets. Where the 3G dongle may have done the job adequately, the 4G dongle will do the job and then some, at a lightening fast pace that brings more flexibility. With a 4G MiFi solution, you can create your own mobile hotspot quickly and easily - a great solution if you use a variety of devices (laptops, tablets, smartphones etc) and want a high-speed data connection when you're out and about, without relying on unsecure WiFi hotspots.

The potential of mobile technology for business continuity is also really powerful. 3G is often used where low bandwidth is required if the main connection is down - any bandwidth is better than none. But with 4G, mobile becomes a viable solution in helping to ensure you don't miss a beat.

4G is everything a business of a certain size needs, and more.

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CAN I GET IT?

So what will you need to get connected on 4G? Typically you will need four things:

- A 4G compatible device (mobile phone, tablet, data dongle, etc)
- A 4G SIM card
- A 4G tariff and data plan
- A 4G network coverage

According to latest figures, EE 4G now covers one hundred and sixty towns and cities throughout the UK. Launching ten months ahead of its rivals, it has the broadest coverage of all the 4G networks.

Hot on its heels after launching in August 2013 are Vodafone and O2. These networks share the same infrastructure, so expect them to launch in your at the same time. Currently O2 4G is available in fifteen major UK cities and a further one hundred and sixty surrounding towns, with the operator claiming coverage for seventeen million people, more than a quarter of the UK population.

Operator Three launched its 4G network in December, initially launching in Birmingham, London, Manchester and Reading.

Check coverage in your area:

O2

http://www.o2.co.uk/4g/coverage-and-cities

Vodafone

http://www.vodafone.co.uk/our-network-and-coverage/uk-coverage-map/index.htm

EE

https://explore.ee.co.uk/coverage-checker

Three

http://www.three.co.uk/Support/Coverage

If you want to future-proof your mobile strategy, get a 4G device. 4G coverage is only going to get better, and it's where the carriers are investing most right now.

DID YOU KNOW?

You don't have to wait until 4G is in your area to upgrade your tariff. There are some great 4G tariffs out there at the moment, offering you more data for lower line rental than their 3G equivalent, and you can still use them on 2G and 3G as normal.

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HOW MUCH MOBILE PHONE DATA DO I USE?

Mobile functions and applications that are part of everyday use may consume a varying amount of data.

For instance, some emails might have large attachments that may take a lot of data to download, or some webpages may have more video or image content than others, which means they use more data to download.

Your phone may have a native app, which allows you to open up the bonnet and see exactly how much data your device is using, when and on what. If not there are plenty of apps available that can do this; check out Google Play or the App Store.

A leading network carrier uses the following assumptions to calculate how much mobile Internet data the following activities could approximately take:

Download a webpage

100 KB
(500MB = approx 5000 pages)

Check your email

Approx 100 KB per email
(500MB = approx 500,000 basic, 1,000 with attachments)

Instant message (IM)

100 KB per IM session
(500MB = approx 500 hours)

Download a document

100 KB per page
(500MB = approx 5000 pages)

Download a song

5 MB per music track
(500MB = approx 100 songs)

Download a photo

2 MB per photo
(500MB = approx 250 photos)

Watch a video

1000 KB per minute of viewing
(500MB = approx 1 hour of viewing)

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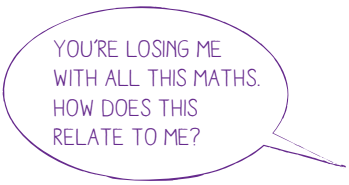
MEGABITS AND MEGABYTES EXPLAINED

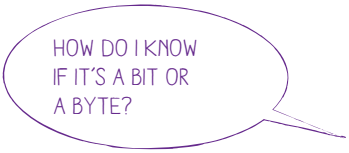
(if you feel like geeking out for a moment)

Connection speeds and data sizes are measured differently, but people tend refer to them with the same names. People often say “megs” and forget that the word “meg” refers to two very different values. Do they mean megabits or megabytes? Aren’t they the same?

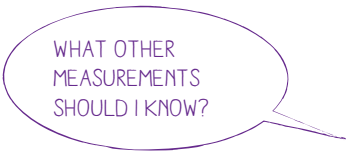
Actually no, there’s a big difference between a bit and a byte. A factor of 8 to be exact - meaning that there are 8 bits in 1 byte. So 1 megabyte is 8 times bigger than 1 megabit, and 1 gigabyte is 8 times bigger than 1 gigabit.



Let’s say you find a file online that is 24 megabytes (MB) in size, and you want to download it using your 24 megabit per second (Mbps) broadband connection. This won’t take 1 second, it will take 8 x 1 second because a MB is 8 times bigger than a Mb. So in theory, and with a perfect speed, it will take 8 seconds to download.



From how it is spelt. A byte is an upper case “B”, and a bit is a lower case “b”. If it says MB, all capitals, then it is a megabyte. If it says Mb, then it is a megabit. There is one exception to this, of course, and it is the symbol for kilobit - this is kb, all lower case.



For practical purposes, you will only need to know a little bit (no pun intended). Kilos, megas, gigas and teras should see you through for the next few years or so.

KB, MB, GB - A kilobyte is 1,024 bytes. A megabyte (MB) is 1,000 kilobytes (KB). A gigabyte (GB) is 1024 megabytes. A terabyte (TB) is 1024 gigabytes.

Kb, Mb, Gb - A kilobit is 1,024 bits. A megabit (Mb) is 1,024 kilobits (kb). A gigabit (Gb) is 1024 megabits. A terabit (Tb) is 1024 gigabits.

Don’t forget!

There are 8 bits in a byte, so to translate from one to the other you can multiply or divide by 8. For example, if you want to transfer 1MB across a 1Mbps connection it will take 8 seconds.