

Cloud4 User Guide

# Reliable connectivity for the cloud from Cloud4



# Choosing the right broadband for your business

If you've ever shopped around for a good broadband deal for your home then you might have come across "Business Broadband" packages from various internet service providers (ISPs). But what is a business broadband package and why should you choose one over regular broadband?

In businesses of all sizes, tens or hundreds of computers and other devices could be connecting to a network. As you might expect, this simply cannot be achieved through a typical ADSL connection in many cases.

## Data speed

An important factor is the data transfer speed, commonly expressed as 'mbps' ('megaBits per-second'). This denotes the quantity of packets being sent along the connectivity at any given time. The higher the 'mbps', the faster the internet experience for the end user or client.

However, any internet speed depends on the type of connection that it is travelling on. The most common broadband connection types, covering 80% of the UK, but also one of the slowest, is 'Asymmetric Digital Subscriber Line' ('ADSL') which has a max download speed of 24mbps and an upload speed of 1mbps.

## ADSL

Although many businesses use ADSL, many of them are upgrading to more up-to-date internet connectivity solutions such as 'fibre-to-the-cabinet' ('FTTC') or 'leased' lines. ADSL doesn't use cabinets to connect to the internet, but instead uses telephone lines in a similar way to dial-up but at a faster speed. A cable runs from the exchange to a home or office via copper telephone lines, which is then connected to a micro-filter or modem which splits the phone line from the internet access delivered from an ISP to a router. The router then delivers Wi-Fi and cable

connections between the router and other devices connected to the network.

## FTTC

Business super-fast fibre broadband, or FTTC, is an increasingly popular mode of connection, reaching download speeds of 80mbps and upload speeds of 20mbps. FTTC uses a fibre-optic cable running from the exchange to a cabinet (the green boxes you see on street corners) and from there to a home or office via a copper cable.

The speed of data transmission, however, depends on the distance between the cabinet and the building as well as the gauge of the cables. The further the building is away from the cabinet, the slower the internet as the cable can only maintain the highest speeds over a certain distance. Both ADSL and FTTC are contended, which can cause speed problems at peak times as you share the internet bandwidth with a lot of other users, including businesses, schools and households.

## Capped connectivity

To make matters worse, some ISPs add caps to internet connections to leverage their resources and balance the internet availability for everyone within the vicinity.

This cap restricts users to a certain amount of 'mbps' at peak times. For example, you could have purchased 20mbps but, due to caps, only receive 10-15mbps

## EFM

'EFM', also known as Ethernet First Mile or Ethernet Leased Line, is a service that is often used to connect multiple premises together but can also be used to connect directly to an exchange. Unlike a fibre leased line which requires fibre cables, EFM uses existing copper cables, commonly expressed as 'pairs', which transmit data packets between buildings. EFM is more cost effective to deploy as there's no need to install any extra cables underground, making installation quicker and easier.

Although it's not as fast as FTTC or wireless leased lines, EFM still provides a fairly decent speed for most small to medium businesses, but importantly it is 'uncontended' which means you don't share this connection with anybody else.

### **The connection speed is commonly expressed in two ways:**

- 2 Pair = up to 10mbps
- 4 Pair = up to 20mbps

To achieve these speeds, you must be within 100m of the exchange. Beyond 3,200m on a 2 Pair connection, or beyond 3,900m on a 4 Pair connection, packets begin to drop off the network causing very slow or non-existent internet connections. However, EFM is significantly more expensive than ADSL or FTTC.

## Fibreline

'Fibreline' (fibre leased line) can reach a symmetric speed of 100mbps, meaning that the download speed is the same as the upload speed. Fibreline is more beneficial for businesses that consume lots of large data sets such as raw data (uncompressed audio, video and image files) or have a large amount of computers connected to a single network.

In a similar way to FTTC, Fibreline requires additional fibre optic cables to be installed, which can be expensive. However, unlike FTTC, it is not contended and there are usually no caps at peak times to leverage resources. The private fibre circuit can provide a peer-to-peer connection between two premises or a direct connection to an exchange for internet access with additional bandwidth flexibility. For more stability, some may wish to also include an ADSL failover in case the Fibreline is inaccessible.

## Wireless leased lines

Wireless leased lines use satellites to connect you to the internet. This technology is relatively new but growing rapidly in popularity for businesses. It's also highly efficient as it allows you to connect to the internet even if you are in a remote part of the country.

It works in a similar way to satellite TV and is also uncontended. Wireless leased is the fastest form of internet offering anywhere between 1mbps to 2gbps (gigabits per second). There is no need to connect to a third party exchange, unlike ADSL or FTTC, as all the connections are handled via satellite. However, there must be a clear line of sight for the internet to be received via the satellite and business owners in leasehold properties will require landlord's consent to the installation of a satellite dish on the premises.

For businesses unable to get fibre leased lines, wireless leased is the better way to go as it offers much faster speeds and wider availability than ADSL, FTTC, EFM or Fibreline. With other types of connections, the availability depends on the area the premise is situated.

## Choosing the right broadband for your business

In essence, your business needs will determine which connection type is best suited to you, as well as the broadband package you will need. For most small businesses, ADSL is suitable; however, SMEs currently

on ADSL may consider more advanced solutions such as FTTC in order to receive greater speed for a similar price.

EFM and Fibreline are more suitable for businesses that operate across multiple sites. If you really want to go 'all out' then you may want to look towards an uncontended lease line such as fibre leased or wireless leased but ideally, you should consider a failover solution, such as ADSL, for in the case that your Fibreline is unavailable. However, if your business is unable to receive EFM or fibre, wireless leased may be the only option.

### Speak to your cloud and connectivity experts

Cloud4 is a cloud and broadband specialist, delivering solutions which are tailored, reliable and straightforward. You're supported continually by our UK-based team, always at the end of the phone when you need our help.

**To find out more about our broadband for business packages, contact us on**

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