The Little Book of Business Broadband

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Choosing the Right Business Broadband service can be confusing. There are many different options. If you make the wrong choice, it can have serious consequences. You might get stuck with a service that regularly underperforms or find yourself paying for capacity you will never use. That's why Modern Networks have produced this brief guide to business broadband. We have tried to demystify the mystifying and transform jargon into something understandable.

Things to think about when selecting your business broadband include:

- How many users do you have?
- How many online applications and services do you use?
- How much data do you want to send and receive monthly?
- How many remote workers do you have?
- How important is latency, reliability and security?
- Do you want to host your own website?
- Do you want to run your own servers?
- Do you use VPN, VoIP and remote backup services?
- Do you operate CCTV, BMS and parking payment systems?

You will also need to consider what level of service and technical support you will need. Of course, your choice of business broadband might be limited by available infrastructure and budget.

So, let's get started.

Broadband Speed Test

There are a number of reasons to do a broadband speed test. First, you will get a clearer picture of what type of service you are currently getting. Second, you can check that you are generally getting the level of service your provider promised. Thirdly, once you know what broadband speeds you are currently getting, you can make an informed decision about changing your service provider or staying with them.

What is ADSL?

Copper cable has been used in the communications industry for over 100 years. ADSL (Asymmetric Digital Subscriber Line) uses existing copper telephone lines to send data from your nearest exchange to your office. The greater the distance between the exchange and your office, the slower your Internet connection (this is known as attenuation).

Copper cable produces electromagnetic current, which if not properly installed can produce network interference. Copper cable also conducts electricity, making it a fire risk.

ADSL is slower than fibre optic broadband, but still provides a reliable connection at a reasonable price.

What is Fibre?

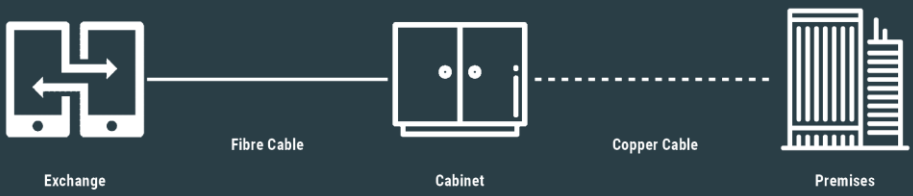
Fibre optic broadband sends data as a beam of light down a cable the width of a human hair. A single fibre optic cable can carry as much information as thousands of copper cables. Fibre offers far greater capacity and reliability than standard ADSL broadband. Fibre broadband loses almost no signal strength over long distances (low attenuation) compared to ADSL. Fibre is also impervious to electromagnetic interference, and is not a fire risk. If you are a business with many users, running lots of online applications then fibre broadband is probably for you.

Fibre broadband comes in two types:

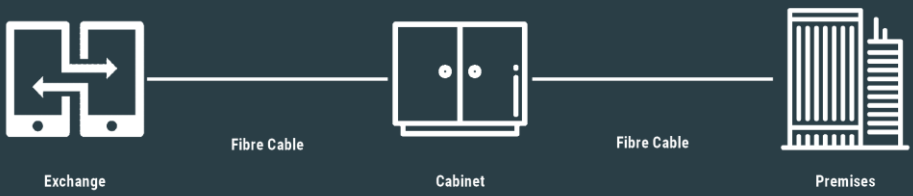
FTTC (Fibre to the Cabinet)

FTTC broadband uses a fibre optic connection from your provider to a cabinet in the street near your business. However, FTTC still uses inefficient copper cable from the cabinet to your premises, which can affect performance. This is the most common type of broadband setup in the UK. Typically, it is quick and cheap to install because it uses the existing infrastructure.

Fibre to the Cabinet



Fibre to the Premises



FTTP (Fibre to the Premises)

FTTP broadband uses a fibre optic connection that runs directly from your provider to your premises, without any copper cable to slow things down. This type of connection can achieve some truly whopping upload and download speeds. However, existing FTTP connections are limited, which usually means you will have to pay to get the fibre cabling installed.

For most businesses, FTTC is fine. However, if you have many users, running lots of high bandwidth, mission critical online applications then FTTP is preferable.

Contention

Many things can affect your broadband speed. Your building might have poor wiring, your router might have seen better days, and you might be sharing your broadband line with other users. This is known as ‘contention’.

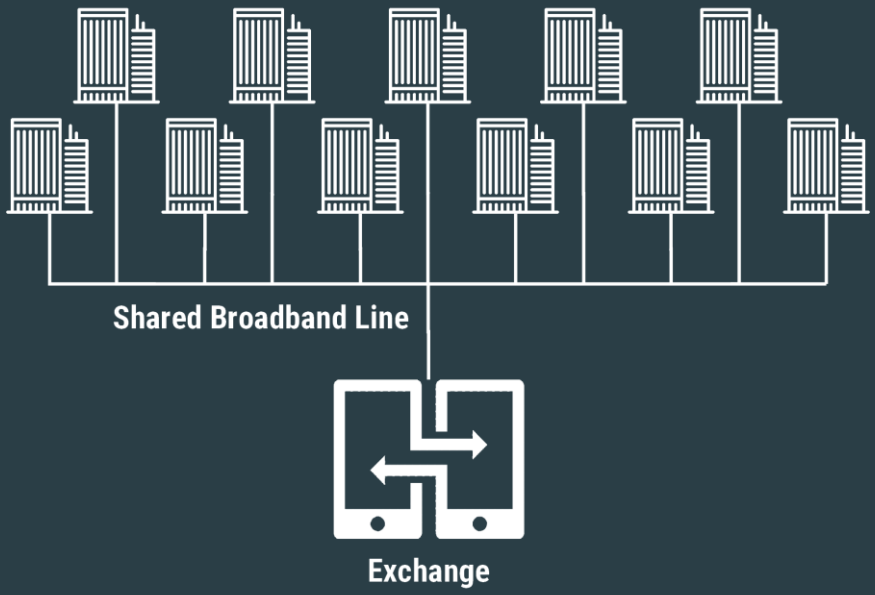
Typically, you would expect a contention ratio of 20:1 for business broadband, depending on your provider. This means you and 19 other businesses might be sharing the same broadband connection. If all 20 businesses are online at the same time then the overall broadband speed might drop noticeably.

If you are using ADSL broadband then contention can be a real problem for

business users. However, if you have fibre broadband then its high capacity makes contention less of an issue.

Of course, if your business uses multiple bandwidth-hungry applications such as video conferencing, CCTV and parking payment systems, you might want a dedicated ‘leased line’ that is yours alone.

Contention



What are Upload and Download Speeds?

Your broadband has two speeds. The upload (upstream) speed controls how fast you can upload data from your computer to the Internet. The upload speed will determine how quickly you can send emails, share documents and make video calls.

The download (downstream) speed controls how fast data is sent from the Internet to your computer. The data might be documents, images and video content. The faster your download speed the better your experience.

If you have a handful of staff who occasionally use the Internet then slower speeds will probably be acceptable. For a business with many users, constantly

sending and receiving files, who rely heavily on Cloud applications then you will need a faster broadband connection.

What is a Leased Line?

A leased line is a dedicated broadband connection. Rather than sharing a broadband line with your neighbours, you have one all to yourself. You won't have to worry about contention issues such as slower speeds or fluctuating performance. Leased lines ensure predictable speeds, reliability and greater security.

Leased lines are available in a range of speeds from 10Mb to 10Gb depending on your business needs. A leased line provides a symmetrical connection. This means you get the same upload and download speeds. This is particularly useful if you upload large amounts of data, host a website and use VPN (Virtual Private Network). It also gives you low latency (tiny time delay between

sending and receiving a signal), which is essential for making video calls and accessing data remotely. Leased lines can take from 30-days to 90-days to install depending on your building's infrastructure.

If you have many users, sharing large amounts of data, who rely on Cloud applications, and where latency, privacy and security is important then you should consider a leased line.

VPN – Virtual Private Network
A VPN connection enables remote workers and regional offices to access corporate applications and resources securely across the Internet.

Ethernet Broadband

Ethernet broadband (sometimes called Ethernet First Mile or EFM) is a low-cost leased line technology best suited to smaller businesses. You get a resilient, symmetrical connection without contention. It's usually quicker to install than a leased line, depending on your provider.

The service is a clever compromise, using a combination of fibre optic and pairs of copper cables to provide fault tolerance i.e. if one pair fails, you keep your connection. Finally, the service is delivered to your premises with a standard Ethernet cable, plugging into your router or firewall. However, fibre leased lines tend to offer faster connection speeds, more reliability and lower latency. Having to use copper

cable also means that Ethernet broadband works best over short distances between the cabinet in the street and exchange.

If you are a small business who relies heavily on Cloud applications, use VPN and VoIP (Voice over IP) telephony then Ethernet broadband might be the perfect solution for you.

VoIP – Voice over Internet Protocol
VoIP sometimes called Voice over IP or IP telephony is a group of technologies that enable the transmission of voice and multimedia content across the Internet, Local Area Networks (LAN) and Wide Area Networks (WAN). VoIP telephone systems offer a range of business benefits such as reduced costs, scalability and extensive range of functions.

Do You Need a Static IP Address?

When you connect to the Internet at home, your computer is assigned a temporary or dynamic Internet Protocol address (IP address) for as long as you are online. The network uses the dynamic IP address so it knows where to send your data. For someone casually surfing the web, a temporary IP address does the job. However, businesses often need a more reliable connection.

When you assign a computer a static IP address, one that does not change, you are able to do some more interesting things. A static IP address enables you to remotely access your computer from anywhere, host a website, run a server, operate CCTV and

use VoIP services. Typically, your business broadband provider can organise a static IP address for you.

Mobile Broadband

Mobile broadband connects to mobile phone networks and sends data over 3G and 4G services just like your smartphone. Mobile broadband is portable, reliable and secure. However, you get slower speeds than fixed line broadband, which means it's only suitable for light business use such as checking your email and surfing the Internet.

Mobile broadband is suitable for remote workers and small businesses situated in rural locations, where service is poor or fixed line broadband is unavailable. Mobile broadband can also be used as a failsafe, should your fixed line broadband service suffer an outage.

Service Levels

Losing your Internet connection can seriously disrupt your business. That's why it is important to check your business broadband provider's service level agreement (SLA). This will explain how quickly certain problems should get fixed, minimum amount of downtime and connectivity speeds. If your broadband provider fails to meet these guarantees, you should be able to claim compensation.

Customer Support

All business broadband providers offer customer support. However, you should choose a support package that best suits your business needs such as 24/7 availability. If your broadband connection is vital to your business then you won't want to skimp on support.

Modern Networks Services

Business Broadband

Modern Networks provides a complete Business Broadband package including a pre-configured router and micro-filter. Our Business Broadband services deliver high quality, affordable broadband with fast download speeds "up to 330Mbps" depending on your telephone line and location. You also get a static IP address.

Types of service available:

- Standard broadband (ADSL)
- Fibre To The Cabinet (FTTC)
- Fibre To The Premises (FTTP)

Leased Lines

Our dedicated leased lines offer fast, reliable, secure broadband connectivity. They are ideal for businesses who run high bandwidth applications, use Internet telephony, online backup services, secure file transfer and want to support remote working.

4G Rapid Deployment Service

Our 4G Rapid Deployment Service is the perfect temporary solution for any business that needs immediate Internet access while waiting for fixed line broadband services to be installed. It is also a great backup solution to tackle costly, unexpected Internet outages.

Our next day, plug-and-play solution provides fast, reliable, secure 4G wireless and mobile broadband with 30GB data allowance. Once your business broadband is installed, simply ship the router back to us.

To learn more about Modern Networks range of business broadband, mobile and Cloud telephony solutions contact our sales team now.

About Modern Networks

Modern Networks is a leading provider of managed IT and telecoms services to the UK's commercial property sector. The company has offices in Hertfordshire and Manchester. We are a certified partner for Cisco, HP and Microsoft. We currently work with thirty top commercial property-managing agents and provide services to over 1700 office buildings and shopping centres. Our clients include CBRE, Savills, Cushman and Wakefield, CEG, JLL, Knight Frank, GVA and Colliers.

Modern Networks also provides IT and telecoms to over 200 varied enterprise clients including architects, media companies, accountancy firms, not-for-profits and travel agents. We are Cyber Essentials certified. Modern Networks provides 24/7 fast, expert technical support to all our customers.

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