MAKING BROADBAND WORK FOR YOU

Rural broadband continues to be a hot topic both locally and nationally. The COVID -19 pandemic has brought it into further focus with the change to peoples' working lives that we have seen this year. The Parish Council is keen to support local business as well as private residents in these challenging times. This article explains what options are currently available locally and how these might be developed in future. We recognise that jargon used by providers is often confusing, and that pricing options are complicated so that people often just don't know which option will suit them the best. We have put together this guide; we hope it will help.

What is Superfast Broadband?

The term 'Superfast Broadband' has been adopted by many provides and the UK government but superfast is a comparative term. It is officially defined as a service offering download speeds of 30Mbps or higher, a dream to many rural communities at present. However, if you are below this level all is not lost, you need to consider what you actually need.

The important thing to remember is that you usually have a single internet line so whatever speed you are getting has to be shared between everyone and everything that uses the internet in the house. And that's often a lot of things. In the modern age, your doorbell, your TV, CCTV, your tablets, PCs and even your fridges and washing machines may use an internet link so that they can offer you control from your phones, streaming on demand or simply software and security updates to protect themselves. Adding up typical use can be difficult so just go for the big numbers. Netflix standard streaming needs about 3Mbps to work without annoying interruptions your film because of buffering, so use that as a minimum, and that's per device that is watching at the same time. But, if you want to watch in full HD, this number can go up to 15-25Mbps. Most streaming services test your internet speed and give you the picture quality that is appropriate for your equipment and you can choose manually to have lower definitions. But if you notice that, when a few users are doing things at the same time, there is less response and more buffering, its worth checking. All the major streaming services have information on how best to access their websites.

Whilst people have been working at home, Zoom, Teams and Skype have all become much vital for communicating with other people. None of these services demand particularly high speeds to work, for example a high-definition video call in Teams will typically only use a little over 1Mbps. But what they do need is a constant reliable connection. So make sure:

- If your using ADSL (asymmetric digital subscriber line) every phone socket in your house has a filter plugged into it; they are the little white dox that plugs into the wall socket and comes with your router when it is delivered. They must be into every phone socket not just the one that plugs into the router

- Your cables are properly connected and not damaged. So, if you've got a lead that connects the router to your computer, or a wire back to the socket on the wall, that you know has been rolled over by a chair over or has been badly kinked, or is just a bit old and haggard, replace it. Amazon sell all the components for a few pounds or even pence, they take seconds to replace and may just make all the difference.
- Make sure your wireless covers all the areas of the house where you need to use it. If you are far away from your router, or on the other side of thick walls, not all of the radio signals get through. This is not an issue if you are browsing the web or reading a news article because they just try again and work eventually. But if you are on a voice or video call, it means missed words, glitching sound or frozen video picture, which annoying for you and the other users. If you need more coverage and haven't got the necessary wiring in your house, have a look at powerline adaptors. They are devices which plug into your sockets and carry data signals back to your router; they can be great for adding a bit of coverage at the extremes of your home quickly and without any additional wiring or other equipment.
- Keep your wifi routers away from sources of interference. Wireless uses radio waves to talk to devices, and if those are disrupted then your internet service will seem slower and less reliable. Think of having two radios in a room on different radio stations, but trying to listen to the words of the song on one of them, it can be done but it's harder to hear and easier to miss things. There are a huge variety of devices in the home that work on the same frequency as wifi, so they can't be avoided, but maximising their distance from the router will help. Examples are microwaves, baby monitors, Bluetooth devices, burglar alarm sensors and PIRs which turn your lights on when you walk into a room.

Common Terms Used: ADSL/DSL/Broadband/Home Internet

This is the simplest form of home internet. It uses the copper cables in the ground from your local telephone exchange that go, via a green cabinet on the side of the road, to your house. It is something that can be offered to any home that is on the phone network and is relatively cheap (typically less than £20 per month). The drawback is speeds are usually quite low as the loss of signal over long copper cables in rural locations means by the time it gets to your house you may see less than 5Mbps.

Common Terms Used: Fibre Broadband, Superfast Fibre, FTTC, BT Infinity

This is a higher speed version of standard ADSL. The internet to your house is carried over fibre optic cable from the telephone exchange to the nearest green cabinet to your house; this provides vastly higher speeds than copper. But the internet is then carried from the cabinet to your home on the existing copper cables from the cabinet (hence the term FTTC "Fibre To The Cabinet"). So if your house is very close to the cabinet (within a few hundred meters of cable) you will benefit from download speeds of up to 70Mbps, but if you live kilometres from your nearest

cabinet, the effect of the copper loss will mean you may still see speeds limited to only a few Mbps. It definitely helps when communities are uprated to FTTC, but it doesn't fix the problem for everyone in rural locations

Common Terms Used: FTTP

This is fibre to the premise. It is relatively new and has not been rolled out in many rural locations yet. It provides high speed fibre optic cable all the way from the exchange to your home. This requires new cabling from the cabinet to the home in almost every case so the rollout is not rapid. It will bring almost limitless speed capabilities but is some time away from being ubiquitously deployed. FTTP should not be confused with Leased line described below. FTTP is still a "broadband" service which means that the total bandwidth may be accessed by several households. Providers "contend" (share) available bandwidth at a rates of between 25 and 125 to 1. This means that your 50Mbps broadband connection may effectively be available to 25 other neighbouring households. Because data transfer is so fast and you don't use the service it every millisecond of the day, you tend not to be aware of this sharing. But if you've ever noticed around 6pm, when everyone in the street gets home and puts their devices on, that your internet seems a bit slow, that's probably the cause

Common terms: Airband, Radio Broadband, RF Internet

Connectivity is delivered literally through the air, from a transmitter on a mobile phone tower somewhere in the area to a receiver that provider installs on your home (much like a satellite dish for your tv signals). The Parish has recently become Airband enabled meaning that homes are within range of a transmitter. It does not mean everywhere in the Parish will have coverage because much like mobile phone signal, geographic issues with hills and trees can limit coverage. Airband technology has improved much in recent years with speed increases and reliability. They offer a variety of connection packages which mimic the service of ADSL, FTTC and even up to leased line. They can be an affordable high-speed alternative to directly wired solutions.

Common terms: Leased line, Dedicated line

A leased line is the solution many businesses use for their internet (sometimes describes as WAN) links. This is delivered on fibre optic from the exchange to the premises. It offers dedicated, uncontented bandwidth with very high availability. Typically any outage to the service must be fixed within 4 hours or there must be compensation from the provider. Speeds start at 100Mbps and go up to 10,000 Mbps (10Gbps). This is what you actually receive, both to upload (saving your photos to the cloud) and to download (streaming and browsing). It's a great solution that can run over any distance from the exchange. But, inevitably it comes at a price. Monthly costs for a leased line start at around £350 and go up above £1,000. There are also connection charges for installing fibre into the property. These are

known as Excess Construction Costs and often run into tens of thousands of pounds.

This can make leased lines prohibitively expensive for home users just wanting Netflix to run smoothly. But for businesses they can be a game changer. Reliable communications open more options, efficiencies and markets to a business. A local business, which is in the process of having a leased line installed, will be able to better support some of the UKs biggest companies remotely, reducing the need to travel to site, reducing the company's carbon footprint and ultimately providing more local jobs.

The Parish Council has recently received information about a new government grant scheme that is partly European funded to help rural businesses install superfast communications. The grant of up to £25k is available to businesses who cannot currently get superfast broadband and who, if they did have access, could secure their businesses and increase local jobs. The Head of the initiative has confirmed that it applies to all products over 30Mbps whether Airband and or leased line based. Because of the £25k limit to the grant, it may mean that some premises are still just too far away and the costs exceed the grant. But Airband is well deployed in the area and you can even take the grant and top up the extra costs if you choose. It's well worth a look if it could benefit your rural business and one of our Parish Councillors is happy to speak to anyone who is interested in applying.

The latest programme update from 'Connecting Shropshire' is attached. For more information contact clerk@alveleyandromsleypc.org.uk.