Killearn Broadband Group

How can I maximise the speed I am getting now?

ADSL2+ technology is now available from the Killearn exchange, so am I able to take full advantage of it?
Download speeds of above 8Mbps are now possible, and upload speeds of maybe 1Mbps, dependant on line length.

1) Check what speed you get currently. Ideally this should be done with the router (hub) connected into the master socket, if possible after removing the faceplate (just for testing) and using the hidden socket. Also you should use a cable to connect the computer running the test to the router rather than using a wireless connection. See the KCC website for suggested speed checking websites;

2) Check whether you are getting ADSL2+ (download speed above 8Mbps would indicate this). If not, speak to your ISP to see if they are supplying it to your premises as it is now available from the exchange. However, there may be other changes you have to make (see below) to take full advantage of the newer technology due to greater susceptibility to noise on the higher ADSL2+ frequencies;

3) If your ISP is providing ADSL2+, if you have an old router, it may not be configured for, or be capable of taking advantage of the newer technology. If your ISP supplied it, then there is a case for getting them to upgrade it;

4) Are you using extension wiring to connect your router? With the increased use of wireless devices, perhaps you can use the router connected directly into the master socket;

5) Upgrade your ADSL filters. The higher frequencies used by ADSL2+ will benefit from a more modern filter, either the "dangly" kind or better, the latest Openreach Mk3 filtered faceplate that splits the broadband and telephone signals immediately the phone-line enters the premises providing a separate socket for each signal type;

6) If you have to operate with internal, extension, wiring then ensure it is in good condition and any joins are minimal and sound. If it is old then consider replacing it with modern, twisted pair cable;

7) Finally, your router may be "stuck" at a slower speed that it should operate. Trying turning it off, waiting 30 secs and turning it on again. Full speed may take anywhere between 75 mins and 5 days to return, but a noticeable improvement should be apparent immediately if it was indeed "stuck".

Do you use your computer/tablet far from the router? If you use wireless, are there walls, especially thick ones, between the router and where you use the computer? There are various things to check and some options:

1) Can you re-position the router so that it is more "in the open" and straight-through the wall, or in "line-of-site" to the computer rather than the signal taking a diagonal path through the wall;

2) Check for interference from your mobile phone, cordless phone and microwave oven. Check that these are not near the router or between the router and where you generally use the laptop or tablet;

3) Check for other metal surfaces that might shield your router or device, eg a filing cabinet;

4) Check whether a change of wireless channel will help if there is a clash with a neighbour's router or older wireless technology on your computer is not correctly matched to your router;

5) Consider using Powerline adapters, or a range extender, to either connect a remotely-located computer, to increase the wireless range, or bring wireless coverage to an area of the premises not currently well covered;

6) If you are thinking of changing your router, choose one with dual-band capabilities. This type provides two networks that can be used to separate simple applications not requiring much data, and high bandwidth applications, & also reduces susceptibility to interference (see above);

7) While referring to routers, the wireless technology it uses may now be dated. The wireless standard has changed markedly over the years and older equipment will be operating at a slower speed than currently available. The router and/or the "receiver" may be constraining the speed and also the range that can be achieved. Look for 802.11-n, or even faster 802.11-ac, equipment now (the oldest was 802.11-a followed by –b, –g and -n). You will probably be using a mix of –g and –n today if you have several devices.

For Businesses and premises on longer exchange lines:

There are a number of additional options that especially a business might consider, several of which will benefit from professional consultation and advice. A selection of these is listed below:

Improvements to your existing situation

1) For a business account, talk to your ISP Sales team to ensure you have the best connection type (ADSL2+ is available) but it seems you have to call them to request the change, and perhaps be persistent to achieve the change. It also seems some staff may not appreciate the differences between ADSL, ADSLMax and ADSL2+ (going forward in technology and upwards in speed) and may try to convince you

that you are already getting the best speed. Changing to ADSL2+ may also involve coming off your existing package and onto a different one. For more established contracts this should be possible without cost, but for a recent one there might be contractual penalties;
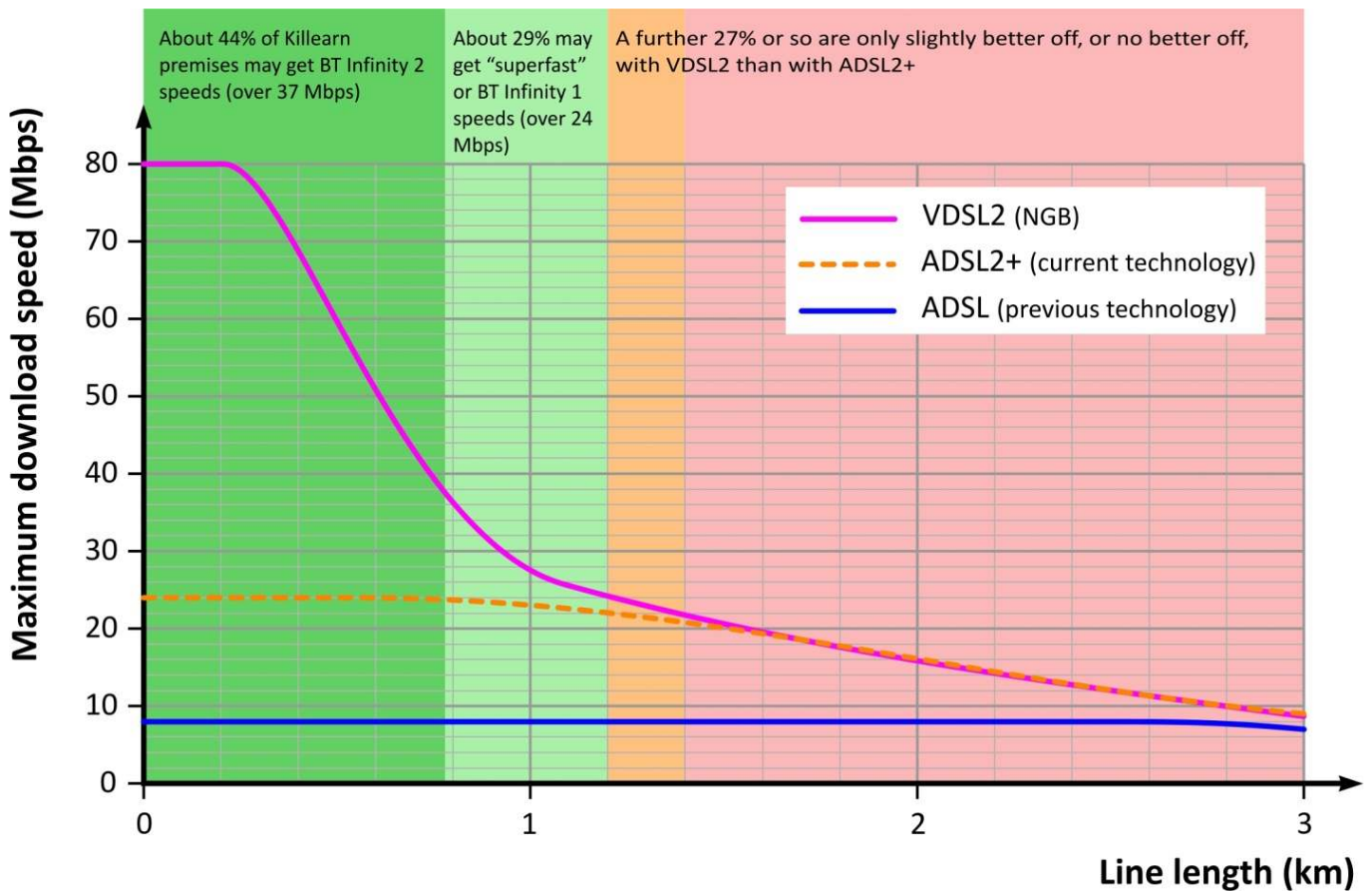
2) ADSL2+ lines normally have their upload speeds capped at 1MB to improve reliability of the connection. You can ask for this to be uncapped, although this may not be possible on a business contract. Sky, for example, also have a "gamer profile" that can be requested to increase the upload speed via the IP Profile;

3) If you have ADSL2+ available, investigate getting your ISP to apply "Annex-M" to improve upload speed possibly up to 2.5Mbps. This is achieved by "trading" some of your download speed for upload speed;

4) Along the same lines, SDSL provides symmetrical upload and download speeds of upto 2Mbps. SDSL is not available on ADSL2+ lines;

5) It is possible to use "bonding" lines to double your bandwidth by combining the broadband coming in on two phone lines. If you already have a 2nd line for a fax for example then you are already part of the way there. You will need to arrange for broadband to be supplied on each line and some special equipment is needed to balance demand across the two (or more) lines;

6) Finally, as the exchange automatically adjusts the line speed to compensate for errors, via DLM (Dynamic Line Management) – also called RADSL (Rate Adaptive Digital Subscriber Line) - it is possible to get the SNR (Signal-to-Noise Ratio) Margin to be reduced. This is normally only something that is done by Openreach as part of a specially requested engineer visit, but can make a large difference if you have a stable line that can otherwise tolerate the occasional error.

Alternative connection solutions are also possible. Please refer to our FAQ leaflet and speak to our technical advisors on the Helpdesk

This leaflet is provided by courtesy of Ashworth Computing Services and iLomond for information only and their advice is to contact a professional if you have any doubts about your ability to carry out any of the above suggestions.

Doug Ashworth   Euan Shaw
Ashworth Computing Services   iLomond
01360-550074   03333445500
info@ashworthcomputingservices.co.uk   euan@iLomond.com

The graph shows the three technologies used on the Killearn exchange, with background regions labelled:
- About 44% of Killearn premises may get BT Infinity 2 speeds (over 37 Mbps)
- About 29% may get "superfast" or BT Infinity 1 speeds (over 24 Mbps)
- A further 27% or so are only slightly better off, or no better off, with VDSL2 than with ADSL2+

Legend:
- VDSL2 (NGB)
- ADSL2+ (current technology)
- ADSL (previous technology)

How Distance Affects Your Broadband

The graph shows the three technologies used on the Killearn exchange. Until recently we used ADSL; lately the exchange was upgraded to ADSL2+ bringing with it, for many subscribers, a doubling of the previous speed; VDSL2 is provided by the fibre upgrade to the exchange and will be supplied via the green cabinets that have recently appeared.

As you can see from the graph, the speed you get is strongly affected by the length of your telephone line between your premises and the cabinet or exchange. This line length may be a lot longer that the straight-line distance. For VDSL2, line lengths over about 1.2 km would result in little or no speed improvement compared to ADSL2+.

The graph also shows roughly how many premises on the Killearn exchange fall within each speed band.