Dundry Broadband Newsletter

The Background

Dundry Parish
There are many reasons why people live in the Parish of Dundry, however, broadband isn’t one of them. Unfortunately broadband is becoming as almost an essential utility along Electricity, Gas (or Oil in most cases) and water.

In this issue of the newsletter I thought I would set the scene for the situation we are facing.

The infrastructure
As mentioned above when BT was privatised, to enhance competition much like the energy sector and the railways, one company was setup to manage the copper and fibre telephone infrastructure for the UK. This company was called BT Openreach (Openreach), ultimately owned by BT Group PLC but run as a separate business to BT Retail, who many of you have your phone and broadband services with. The idea was that all telecommunications companies could be on an equal footing with BT Retail when it came to selling services to the end user as they would all pay the same price to Openreach. Again much like the energy companies.

Since the formation of Openreach there has been very little development in extending the network or increasing the capacity where it is not financially viable or a grant forthcoming. There are plenty of new housing developments around the country that still do not have a landline let alone broadband.

There have during this time been a number of operators who have tried to move into this space by either setting up their own infrastructure such as Virgin media but this usually has a limited footprint or the likes of Sky and Orange who have their own equipment in the telephone exchanges operated by Openreach.

Openreach will provide services to locations where there are none. However, if there is no existing infrastructure the end user will have to pay for poles etc to connect it to the network. This can be anything from a few hundred pounds to tens of thousands for the additional work.

The technology
The internet has come a long way from when it was used for messaging between universities in the 1970s.

Today we expect to watch movies on demand, shop online and keep in touch with loved ones via video services like Skype and Facetime.

As our needs have grown so too has the speed of the internet. The copper phone lines that run to our houses were never designed for data, they were designed for voice and there was no requirement to ensure homes were connected to their closest exchange.

Phone lines were either connected directly to the telephone or if the homes were further away then they would be connected via a street cabinet (PCP) which
would then go back to the exchange via a copper back bone. One of the important things to remember is that whilst the lines were powered it was extremely low voltage and provided by the exchange. Our street cabinet is P48 which is located on Broadoak Hill. In addition to this there are secondary street cabinets. This is what we have at the bottom of Andruus Drive. This cabinet is not upgradable.

The technology that we currently use to receive the internet is called ADSL2 this was the progression from the analogue 56k modems we had around the turn of the century.

There have been a couple of revisions of ADSL with the latest version being ADSL2+. This revision offered speeds of upto 24mbs. With this technology 24mb was the fastest speed you can achieve.

Generally the closer you are to the exchange the faster your internet speed will be.

Because the Parish is approx. 4.5km from our exchange this means our speeds are around the 1 to 3mb connection speeds. The charts below illustrate the expected broadband speeds versus distance from the exchange.

As you can see from the chart above at the distance we are from the exchange ADSL and ADSL2+ speeds are not much different.

When ADSL was rolled out, other parties were allowed to put their own equipment in the exchanges. This was called Local Loop Unbundling (LLU). This was generally perceived to be faster than BT but usually this was because there were less users connected to the equipment or they installed ADSL2+ in before BT. However, this provided to be quite expensive to maintain so a lot of providers pulled out and started reselling Openreach services.

BT infinity / Sky Fibre / FTTC
To deliver faster speeds over copper the technology VDSL2 was developed. The speeds achievable from VDSL2 are significantly great although the speeds drop away quickly over shorter distances. The chart below shows this.

VDSL2 AKA FTTC

So instead of having the broadband equipment held in the exchange it was moved out to the street cabinets. This was initially delivered by fibre optic cable to a new cabinet which is then connected via the existing copper to the home.

Dundry is approx. 2.6KM from the cabinet.

Because there are many street cabinets, Openreach is the only provider of FTTC services. They then wholesale the services to BT, Sky and Talk Talk to name a few.

The other challenge these new FTTC cabinets bring is that they require a power supply to operate. Due to the physical location of the cabinet there is no power nearby to power it.

This is the problem we face.