Full Fibre Broadband – The high-speed solution to Government broadband targets?

Matt Powell, editor for the consumer broadband comparison site Broadband Genie, examines if the deployment of full fibre broadband has improved since his previous post in 2013 and argues that the UK Government's plans for using satellite broadband to plug the final 5% of homes will be inadequate for many.

Looking back over the state of UK broadband in 2015 it can feel like we've made little progress in moving our ageing infrastructure into the future.

Yes, broadband speeds have continued to improve. Ofcom reported in February that home broadband download speeds were now an average of 22.8Mb and "nearly" one in three broadband connections were superfast. And yes, fibre broadband has also continued to grow and reach more homes, with BT claiming to have extended its fibre services to 80% of premises.

But while these are definitely positive steps (and it seems like the aim of having 95% superfast coverage by 2017 is not completely out of the question) most of us are still using the same BT Openreach or Virgin Media network lines. There has been no major leap forward in terms of technology, and for services using the BT Openreach network there's still a reliance on the old copper telephone network.

If the UK is going to keep pace with the rest of the world, we need investment in a next generation communications network. That means going full fibre.

The government's broadband promises

If anyone is keen to see widespread gigabit takeup, it should be the UK government. Over the past few years we've seen a succession of ever more optimistic targets for broadband speeds, most recently with the Chancellor George Osborne saying in the 2015 budget that he wants "nearly all" homes to have at least 100Mb broadband.

At present the Broadband Delivery UK (BDUK) project has a mandate to ensure 95% of homes have access to superfast broadband (which they define as at least 24Mb) by 2017. We should also see in 2016 a firm commitment for a Universal Service Obligation (USO), with a target of 10Mb. This would enshrine the right to a minimum broadband speed in law so that even those in the most remote areas would not be left behind.

But while such a move is welcome, this is not an ambitious target. The USO is not expected to come into action until 2020, by which point the vast majority of the country should have broadband far better than 10Mb. It would also be disappointing if those in the 5% not covered by BDUK are left waiting until the end of the decade for a decent internet service.

2016: the year of full fibre broadband?

A full fibre broadband network not only offers outstanding performance right now but can deliver improvements to keep up with growing demand far into the future. However, it does mean a significant amount of money being spent on installing fibre optic lines and the supporting hardware and this is no small task.

But there are some positive signs that full fibre might be taking steps into the mainstream.

There are areas of the UK where Fibre To The Premises (FTTP) is available right now. In London, the fibre provider Hyperoptic runs lines into new build flats and offices, and projects such as B4RN and Gigaclear have been focusing on delivering fibre to rural areas.

Perhaps the most interesting development right now is being done by CityFibre, who have focused on installing full fibre networks in urban areas.

In a joint venture known as the Ultra Fibre Optic (UFO) project, Sky and TalkTalk are utilising CityFibre's existing 103km long fibre network and investing millions in getting it installed to homes, with the aim of reaching 20,000 in the first phase. Sky and TalkTalk are otherwise reliant on BT for their broadband, so by doing this they've bypassed the national network completely.

CityFibre recently spent £180m to acquire the KCOM network, which gives them access to fibre in another 21 cities, so are on their way to becoming a major competitor to BT. The big question is whether they can use their growing network to actually deliver a full fibre service regular broadband consumers can buy. If so we could see many more UK homes jump on board the full fibre train in the near future. That would be a major step forward.

Can satellite broadband plug the gaps?

Ideally everyone in the country would have a fibre line run to their home or office but, for now at least, that's not financially viable. There are remote rural areas where the only option for fixed line connectivity is either very slow ADSL or even dial-up (in 2013 BT said there were still about 1,000 homes where no broadband was available).

This leaves a big question mark hanging over that final 5% of premises which don't fall under the BDUK target: how are they supposed to get broadband?

Until recently it wasn't known exactly how the government would be helping the 5% to get broadband, but at least some of them may be receiving subsidised satellite broadband. A trial scheme announced in September will cover the costs of installing a satellite internet connection, though won't pay for the monthly fees.

On the surface this seems like an ideal solution for rural broadband. Satellite works everywhere, only requiring a dish mounted to the outside of the building with a clear view of the sky. And it can be much faster than ADSL broadband, with consumer services presently offering up to 22Mb download and 6Mb upload.

But satellite internet has some important caveats and may not fulfill the needs of many rural users, particularly businesses.

A key problem is latency. The delay in communicating with an orbital relay (the "lag") is significantly higher than with other types of broadband. This isn't a problem for web browsing, email or file transfer, but any time you need rapid back and forth communication it becomes a hindrance. This renders online gaming on satellite nearly impossible, and is problematic for remote desktop access and Voice Over IP (VOIP) applications such as Skype, both of which are routinely used by businesses.

Satellite services are also poorer value than typical fixed line broadband as they have much tighter data allowances with fees for excessive use, whereas fixed line home broadband is commonly available with unlimited usage for increasingly lower prices.

Satellite broadband may be the answer for some but an alternative should be available for those who find it inadequate. If telecom networks or the government are not willing to deploy capable fixed lines to every home there needs to be some careful consideration of the options they do make available to ensure they're fit for purpose, not just ticking the boxes to fulfil obligations on

paper with no consideration for the day to day practicalities of homes and businesses which are increasingly reliant on internet services.

This blog gives the views of the author and does not represent the position of the LSE Media Policy Project blog, nor of the London School of Economics and Political Science.

December 18th, 2015 | Broadband, Featured | 2 Comments