

The fibre technology replacing the copper network



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Kiwis are enjoying a better, faster, stronger internet connection than ever before.

As the ultra-fast broadband (UFB) rollout across New Zealand reaches 84 per cent of Kiwis, those of us who've taken up fibre are enjoying faster-than-ever, seamless connectivity.

Whether connecting with loved ones overseas, whiling the afternoon away on a video game, or enjoying an action-packed TV series, Kiwis are enjoying a better, faster, stronger internet connection than ever before. A good connection is also especially important after a year of the new normal, now that remote and flexible working

is here to stay.

But demands of modern connectivity are also putting a strain on the older parts of the copper telecommunications infrastructure which has been servicing Kiwis for the past 100-plus years.

Luckily, the newly-built fibre network is future-proofed for decades to come meaning we'll be less dependent on a once-vital technology.

[According to the government](#), the end of 2022 will see over 1.8 million homes and businesses connected to the UFB network.

But what exactly is UFB?



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Come September, Chorus will be trialling the removal of the copper network in areas that already have a high fibre uptake.

UFB technology almost at the speed of light

Put simply, the UFB network is a giant series of interconnected fibre optic cables that send signals to pass data between networks, similar to the copper network.

However, fibre optic cables are made from super-thin glass that becomes incredibly flexible, and light passes through the cable using a transmitter. The internal walls of the cable are light-reflecting, allowing light pulses representing binary code to travel quickly to its destination, where it is decoded and interpreted by the computer.

The individual fibres are thinner, lighter, and more durable than copper, which makes them easier to install and takes up less room in conduits and service ducts.

Fibre optic cables transfer data using a wave of light, meaning the signal travels as fast as 70 per cent of light speed - and that means less chance for signal degeneration.

On the other hand, the copper network, which has been interconnecting hard landlines [since 1881](#), uses electrical signals to pass data between networks.

The main type of copper cable used, coaxial, has a tendency to let the signal deteriorate drastically the further the signal travels. This means the further away

from the neighbourhood node and internet service provider (ISP) someone lives, the worse the signal could get.

Since copper uses electricity, there are also hard physical limitations that are simply impossible to break past.

Another technology is Fixed Wireless Access (FWA), which provides wireless connectivity through radio links between two fixed points. A signal is carried via radio waves, providing a wireless connection without laying fibre and cables. It provides connectivity between a radio tower or fixed structure in the neighbourhood to your home.

However, tests by the [commerce commission](#) have shown that FWA isn't great when it comes to connectivity, having clocked in significantly lower speeds than fibre.

By contrast, fibre carries a very fast connection, is incredibly reliable, and has a greater capacity to carry the signal. It also uses less electricity and is friendlier on the environment.

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Early steps to retiring copper

The rollout of UFB does not mean copper has left the building. Chorus is now just beginning the tentative first footsteps towards seeing how New Zealand would be without it.

Come September, Chorus will be trialling the removal of the copper network in areas that already have a high fibre uptake. It's planned that just over 200 people will be affected by this initial trial. This means if you haven't heard directly from Chorus already, then you've got nothing to worry about.

It's a plan that will see less than one per cent of those still on the copper network affected, carried over 12 months starting with the September trial.

All those affected will be notified by Chorus at the six month, three month, and 20 day mark. This will allow for plenty of time for people to set up alternatives.

Regardless, copper will continue to be maintained and invested in where it's needed. In areas where fibre is yet to be built or isn't scheduled for construction, the copper network will continue to be serviced and offer consistent, reliable phone and broadband services.

To receive further information of your broadband options, visit <https://www.chorus.co.nz/broadband>. To find out more about the trial or see whether your address is affected, visit <https://www.chorus.co.nz/copper-withdrawal>.

