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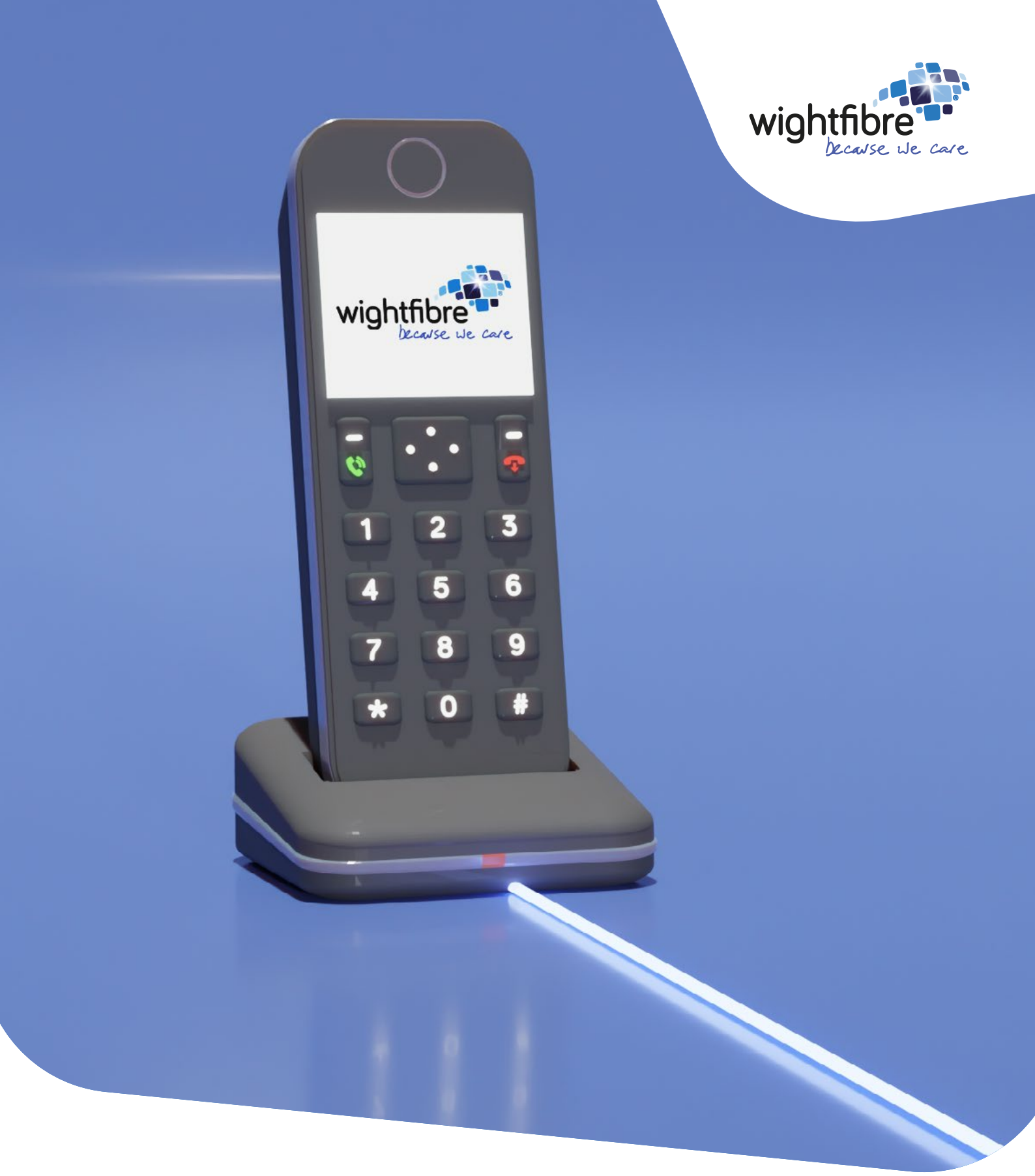


The Isle of Wight's Big Copper Switch Off

A Different Kind of Broadband • Full-fibre • Ultrafast • Future-proof

Preface

The UK has one of the oldest telephone systems in the world, and in 1879, within just three years of the first telephone call by Alexander Graham Bell in 1876, London had its first telephone exchange.

In this time we have seen automation such as the first automatic telephone exchange as long ago as 1912. We had to wait until 1980 for the first digital exchanges to appear and the mid 90's for the early dial up internet services to start.

It's amazing to think of it now but the start of modern broadband era only started at the turn of this Millennium. Now with more and more people having mobile phones, many only have a traditional "land-line" telephone because they "have to" in order to have broadband.

Now all that is set to change and the next big revolution is upon us. In this white paper from WightFibre, we'll look at what some are calling the "Big Copper Switch Off" and what it means to home users and businesses.

WightFibre are on track to achieve the "Big Copper Switch Off" in 2022, a full 10 years or more ahead of the rest of the UK.

Introduction

The traditional telephone network that we have been familiar with for all of our lives is coming to an end .

This network has become known as the "Plain Old Telephony System" or POTS, but more accurately is called the Public Switched Telephone Network (PSTN). PSTN makes use of analogue signals sent over copper wire and although exchanges and trunk lines have been converted to digital since the 1980's the wires to the home essentially connect two simple microphones and loudspeakers together on each end of the call and can also carry a voltage signal that is used to power and ring the bell – this is why you could even connect a genuine vintage rotary dial phone with bell to the existing network today!

At the turn of the millennium these same copper wires were used to carry broadband signals into the home. Even today, most broadband connections on the island using on BT, Sky, Talk Talk – everyone except WightFibre - are still carried on those century old copper wires.

This old copper network is not fit for the future so the telecommunications industry is upgrading their old copper networks to fibre. For some time this work has been going on in the background to lay fibre street cabinets in the street but the connection into the home is still carried by copper wires into the home. Having largely completed that work the time has come to replace the aging copper connections into the home with fibre.

This could present a lot of problems for old analogue technology as it will simply stop working when the copper line is replaced. Luckily the benefits of switching to digital makes a switch over very worthwhile as it can lead to longer term cost savings as well as increased flexibility. For those essential devices that are more difficult to change (alarm systems and elderly care systems for example) there are affordable solutions already available.

What is going to be Switched Off?

Ideally the analogue switch off would go hand in hand with universal full-fibre to the property. BT Openreach's estimate is the earliest this could likely be completed is 2035 so for many the digital services will still need to be provided by a combination of fibre-optic cables and copper wires providing the final mile to the property.

On the Isle of Wight BT Openreach has not yet given any dates for their copper switch off but WightFibre have been already been working on their Big Copper Switch Off since 2018.

The aim is to switch off the copper network to make all connections pure, full-fibre all the way into the home. The problem is that many older systems will not work on a pure, full-fibre connection.

- The Switch Over in the Home

What are the implications for the analogue switch off in the home? The most obvious thing that will happen is that any analogue phones plugged into phone sockets will stop working.

This doesn't necessarily mean your old phone will stop working. It does mean that you may require some form of convertor box for your phone. On the WightFibre network this conversion is done inside your router so instead of plugging your phone into the phone socket on the wall you will plug into a phone socket on your router. Most phones will work this way except for old rotary dial phones but very few people have these. Some households might even want to do away with having to plug a phone into a socket at all and invest in a new VoIP phone what works over WiFi without needing to be plugged in.

However, the challenge goes beyond just phones; what about home alarm systems, and elderly care devices such as emergency "red button" systems and fall detectors? Again, the good news is that very affordable adaptor modules will enable almost anything with a standard UK phone plug to be plugged into the digital IP network. The exception to this will be some really old alarm systems which, unfortunately, will simply need to be replaced. Already widely available are devices and alarm systems that will work over your full-fibre connection or a mobile phone connection and they will not need a convertor box.

It is also expected that many providers of legacy equipment will provide addons specifically for their devices. It is useful to be aware that at the time of writing a simple analogue to IP module costs less than £50 so beware of companies trying to use the Switch Over to sell over-expensive solutions.

WightFibre provides analogue to digital converters as standard with all new residential full-fibre installs, already built into our routers. Not only do you get broadband that just works, you also get the latest VoIP telephone system without needing to change handsets.

The Switch Over in the Business

What are the implications for the analogue switch off in a business? In short, the answer is very similar to the home A major difference is there is likely to be a much greater investment in legacy equipment that needs to be taken into account such as analogue phone systems, fax machines (if you still have one) as well as a much broader array of other equipment including alarms, sensors, EPoS systems, card machines and so on.

For many companies, the switch off of analogue provides a great opportunity to switch over to a much more flexible cloud-based VoIP phone system.

The advantages of this are huge including:

- No need to own or lease a physical system
- No more maintenance costs for an ageing physical phone system
- Great features without the need for physical add-on modules including
    - Easy to program Interactive Voice Response and Menus (IVR)
    - Caller groups
    - Automatic call routing
    - Call recording
    - Automatic Spam call filtering
    - On hold music (though not sure this is an advantage!)
- Easily distributable across multiple premises
    - Perhaps the “killer app” in these new days of home working is that employees working from home can have an office extension and even be part of a call group in their own home.
    - Mobile smart phones can serve as a handset so the “office” extension is even available on the move.

The reduction in up front and large ongoing costs brings these features into the reach even for very small companies which wouldn’t have previously had the budget for an office phone system.

Many of the issues affecting home systems still apply and can be solved in much the same way. For example, legacy analogue devices such as alarm systems and even fax machines for businesses that still use them can be connected to affordable analogue to IP modules, as can card machines and EPoS terminals. A word of warning though, very old alarm systems and card machines cannot be converted and you would be wise to upgrade these rather than try to convert them.

If you really don’t want to change our your phone system, you can convert the outgoing phone lines in your system to use VoIP by using a convertor and continue to use your existing analogue phone system. This is advisable only as a temporary measure and such systems lack flexibility. New cloud-based phone systems are so cost effective it would almost certainly be cost less to move over.

Of course to take full advantage of VoIP it is also an ideal time to buy new IP phone handsetsto maximise benefits and ease of use.

Is it all too good to be true?

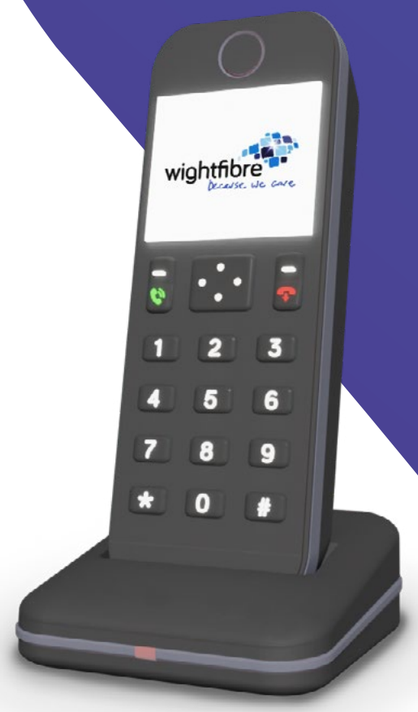
Often when offered a huge set of new features with low conversion costs and the potential for ongoing savings, it’s natural to ask if it’s all too good to be true, or perhaps “what’s the catch?”.

In technology terms, there is almost no catch. The only downside really is in case of a power cut. The old analogue system is powered from the exchange, whereas the new digital network which relies extensively on full-fibre is not. This means that any critical systems such as alarm systems and emergency “red buttons” or even making a 999 call won’t work if the power goes out if they are simply plugged into an IP converter module; so power for themselves and critical parts of the network including the router that connects them to the broadband connection is required.

Although it should also be noted that most cordless analogue phones are reliant on mains power to work, and so would not have continued to work during a local power outage to a home or place of business using the old analogue system.

WightFibre covers this by providing batter-backup for vulnerable customers free of charge (and for a charge for other customers) meaning that these devices will continue to work for up to an hour in the case of a power cut.

In the domestic healthcare setting versions of “Red buttons” are already available with several hours battery backup for themselves (and the router) built in. In the business environment the system can be provided with its own dedicated uninterruptible power supply (UPS) or plugged into a pre-existing UPS that powers the existing network in case of outage.



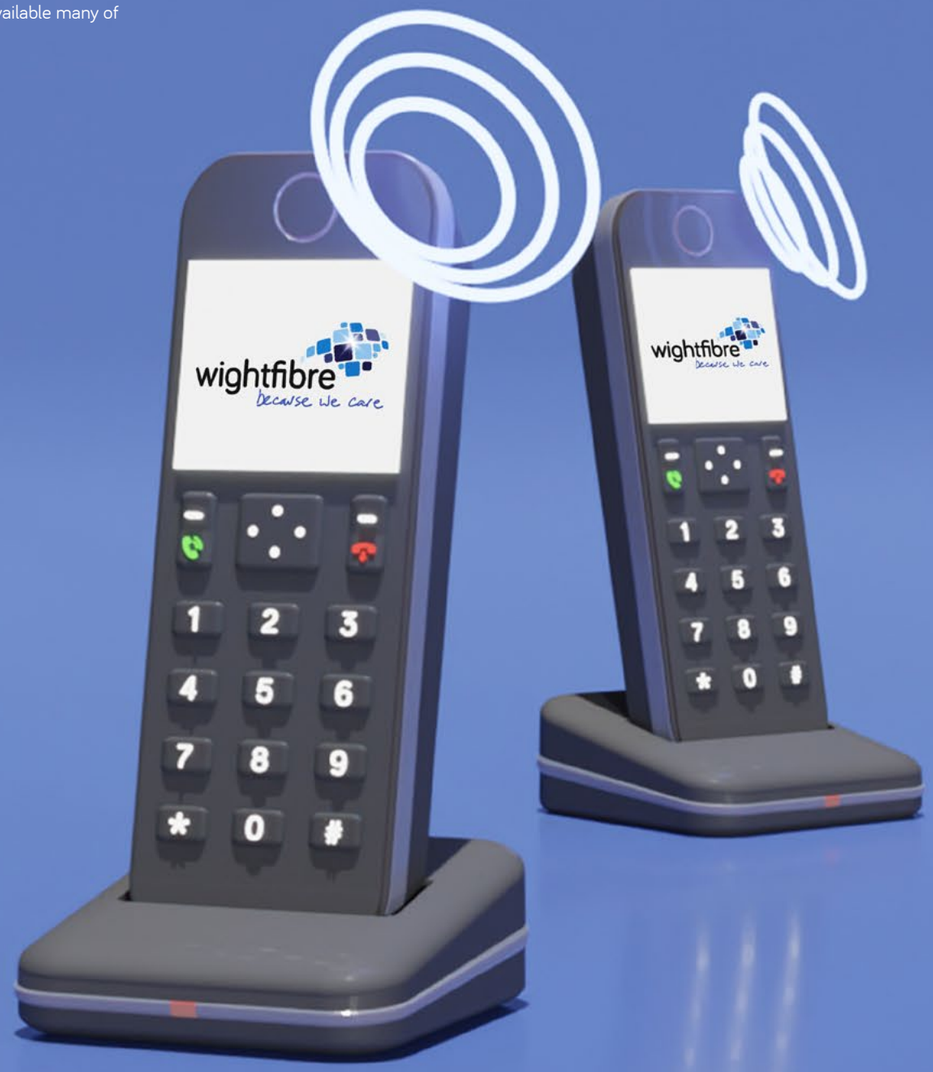
For many, especially in business, there will be an upfront conversion or upgrade cost. In most cases the costs are small in the grand scheme of things and are typically related to business size and turnover and therefore its ability to meet them. For businesses leasing and paying maintenance charges on legacy analogue equipment the savings could more than pay for these costs.

In Conclusion

Like the broadcast TV analogue to digital switchover, the switch off of traditional analogue phone lines is a step forward in reducing the dependency on a legacy technology that has served us well for over a hundred years.

It presents a great opportunity to switch over to better, feature rich and future-proof digital services with very few drawbacks.

For those with an investment in analogue equipment that still needs to be kept operational there are affordable solutions to connecting it to an IP network whilst at the same time making available many of flexible benefits of a VoIP system.



The really good news on the Isle of Wight's Big Copper Switch Off?

The really good news is that WightFibre's Big Cooper Switch Off has already been completed. If you are a WightFibre residential customer we have already replaced your copper line with full-fibre and your phone is already using convertors or you are using a new VoIP phone. Vulnerable customers have battery back-up. We have worked with agencies such as Wightcare to ensure these systems are fit for purpose.

Business customers have all be moved to our cloud-based VoIP phone service. Alarm systems have been upgraded, card machines have been upgraded.

This puts WightFibre and WightFibre's customers a full 13 years ahead of the rest of the country. For customers still using BT or other providers, why not join us in the 21st Century?

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