



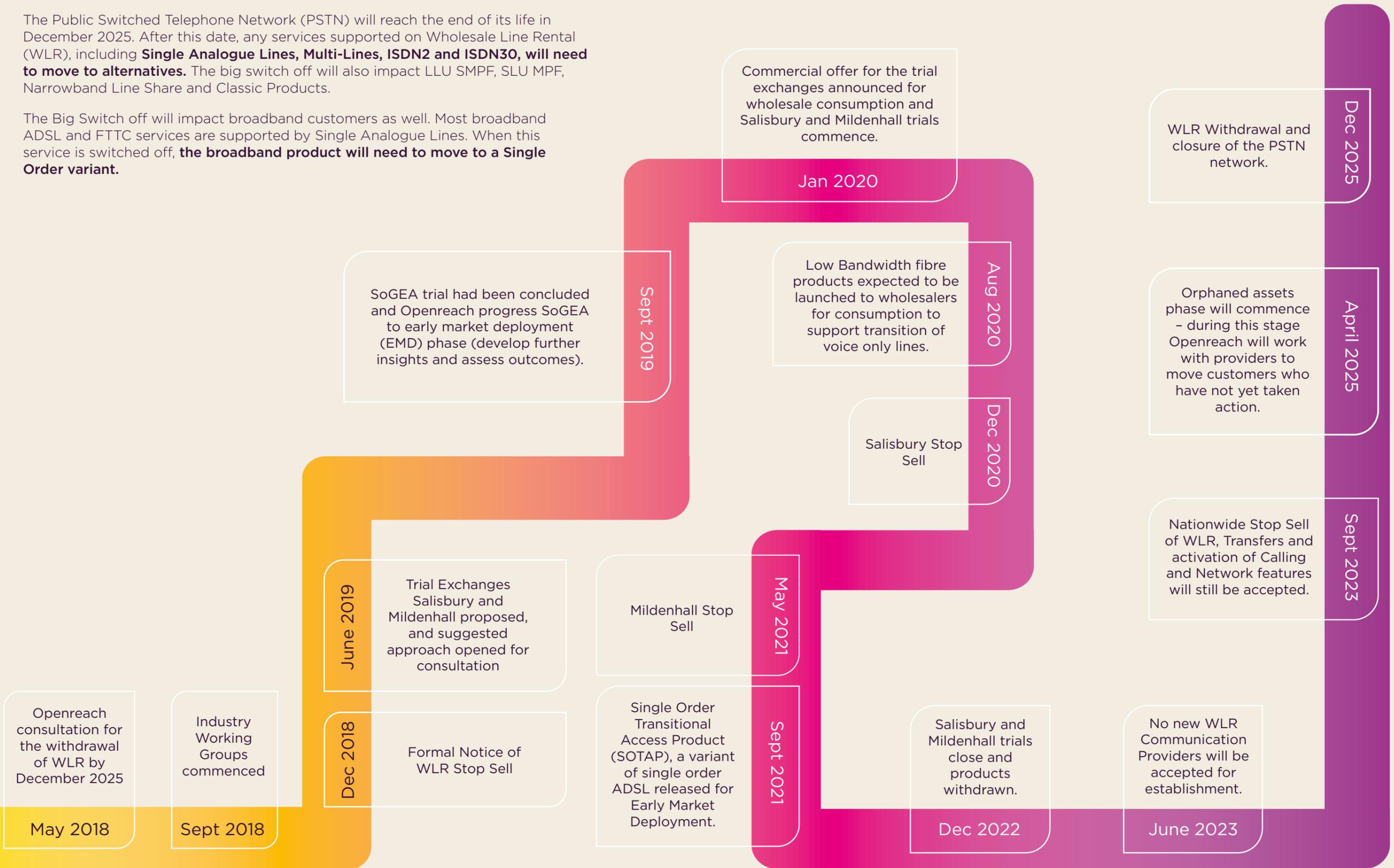
Power in Partnership

# PARTNER GUIDE TO THE PSTN WITHDRAWAL



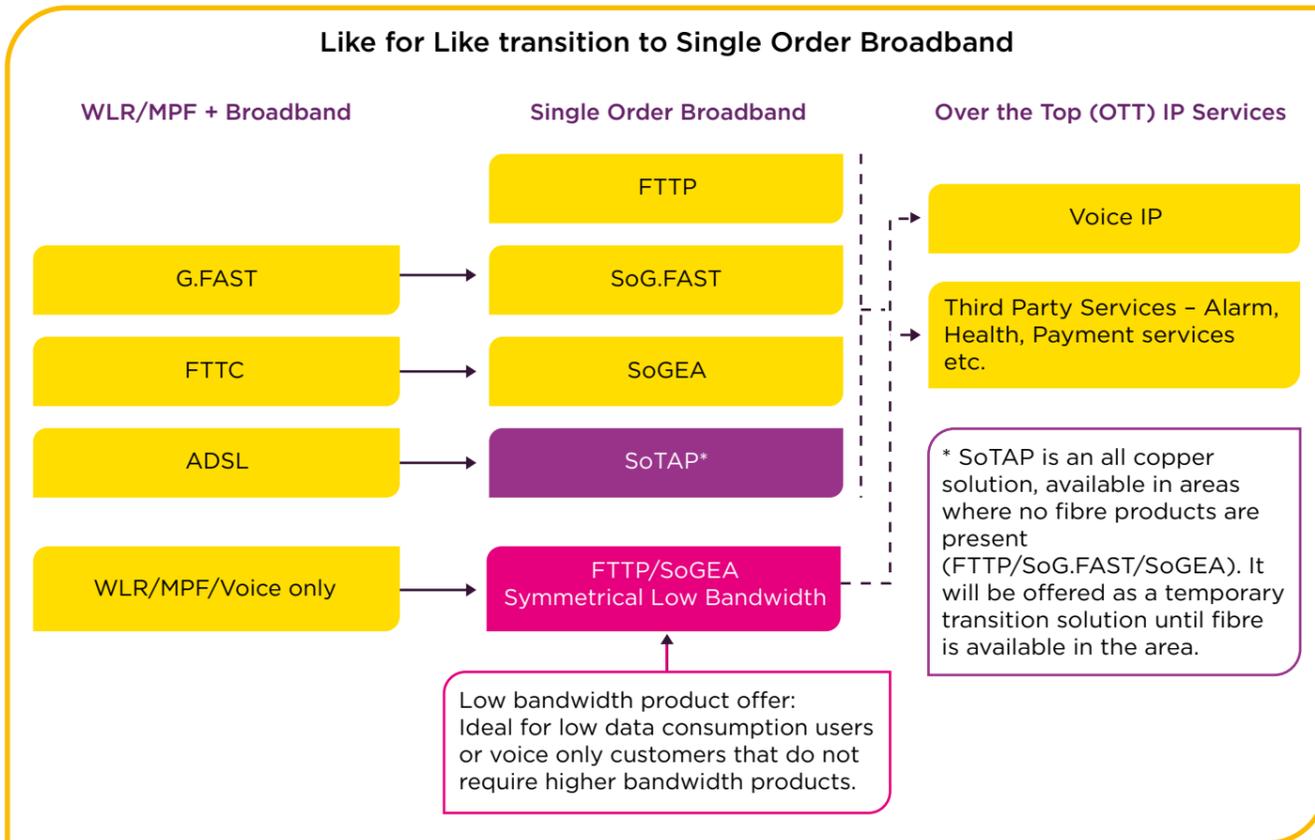
The Public Switched Telephone Network (PSTN) will reach the end of its life in December 2025. After this date, any services supported on Wholesale Line Rental (WLR), including **Single Analogue Lines, Multi-Lines, ISDN2 and ISDN30, will need to move to alternatives.** The big switch off will also impact LLU SMPF, SLU MPF, Narrowband Line Share and Classic Products.

The Big Switch off will impact broadband customers as well. Most broadband ADSL and FTTC services are supported by Single Analogue Lines. When this service is switched off, **the broadband product will need to move to a Single Order variant.**



GUIDE TO THE NEW TECHNOLOGY

The below diagram shows the like-for-like technology transitions from WLR/MPF + broadband to the new Single Order broadband.



IMPROVE CUSTOMER EXPERIENCE WITH NEW INSTALLATIONS:

New installation options, also known as site visit reasons, are available to Single Order products to improve the experience:

Engineer Activity	No Site Visit	Standard	Standard + Prove IP Voice	Premium	Premium + Prove IP Voice
Enables the network to provide service without visiting EU site	✓				
Enables the network and attends EU site to install/setup the service		✓	✓	✓	✓
Carries out installation of Wi-Fi enhancements and tests/optimises the service, along with a demo to the EU				✓	✓
Tests the IP voice service			✓		✓

EU = End User

An additional module that Openreach plan to introduce will be the 'Install UPS'. This will allow the Openreach engineer to install your third-party battery backup solution. To note, Openreach will not source or provide the battery backup unit.

IMPORTANT - OTT IP SERVICES

OTT IP services are standalone products. They are not included with a single order broadband and require a separate order. For Voice only single lines or low data consumption services (e.g. payment card services), a single order low bandwidth product will be available. The Communication Provider should then offer an over the top Voice service and should be aware of any other required services on the line, though these might be supported by a third party.

SINGLE ORDER BROADBAND - COMPATIBLE ROUTERS

DWS currently offer routers which are compatible with the Single Order broadband products. See list below:

Single Order Product	Technicolor Routers		
	TG588v2	DWA 0120	DGA 2231
FTTP	No	Yes - TBS	Yes - TBS
SoG.FAST	No	No	Yes - TBS*
SoGEA	Yes	Yes	Yes
SoTAP	Yes	Yes	Yes
ATA port	No	No	x2 ports

TBS: Two Box Solution, whereby the Technicolor router will connect to the Openreach provided ONT, via the Ethernet WAN port.

\*DGA 2231 has a SoG.FAST MCT Openreach approved modem and, in the future, can be used as a one box solution (without the Openreach ONT).

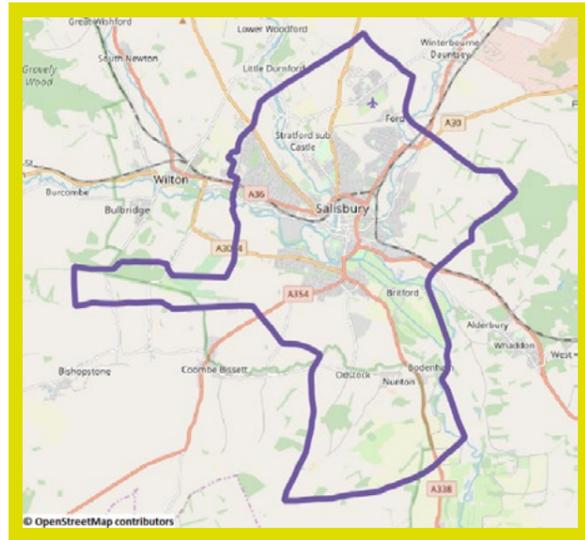
DWS plan to launch new Technicolor broadband routers, with all models including an ATA port (ETA October 2020).



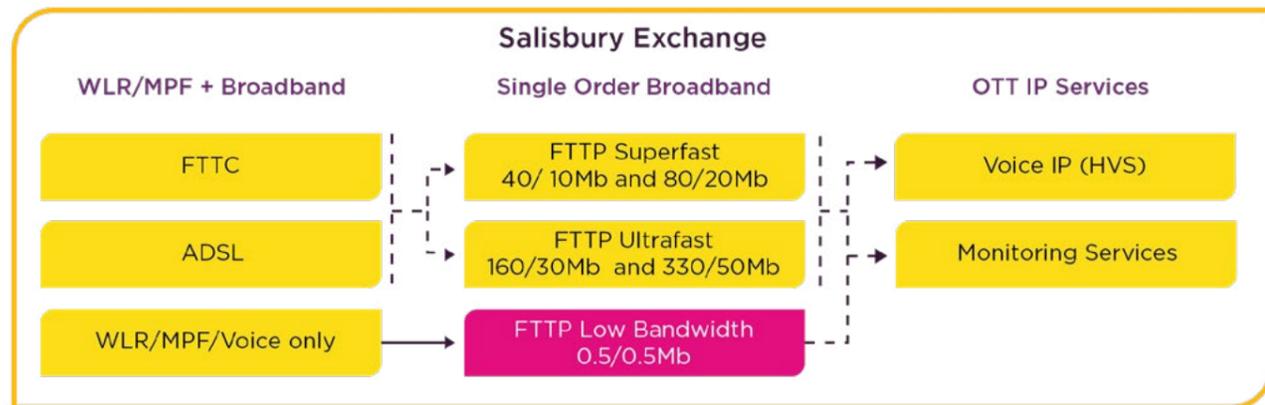
The Salisbury Trial will see the transition of assets in the area to FTTP, where available. Where Fibre to the Premise is not available, premises will follow the national Stop Sell dates.

To facilitate the trial, new provides for both FTTC, ADSL and WLR will be restricted. Transfers and working line takeovers will also be restricted.

Modifies that increase or decrease the asset base will also be restricted. This includes increases and decreases of lines/channels, but also modifications to over the top broadband FTTC and ADSL services



Depending on the location, your customer might have several options they can take to transition their services to "All IP".



**Statistics**

- > 20.5k residential premises
- > 1.5k business premises
- > Openreach Handover Point (OHP)
- > Aim to be 100% Fibre
- > WLR and MPF will be restricted where FTTP is available

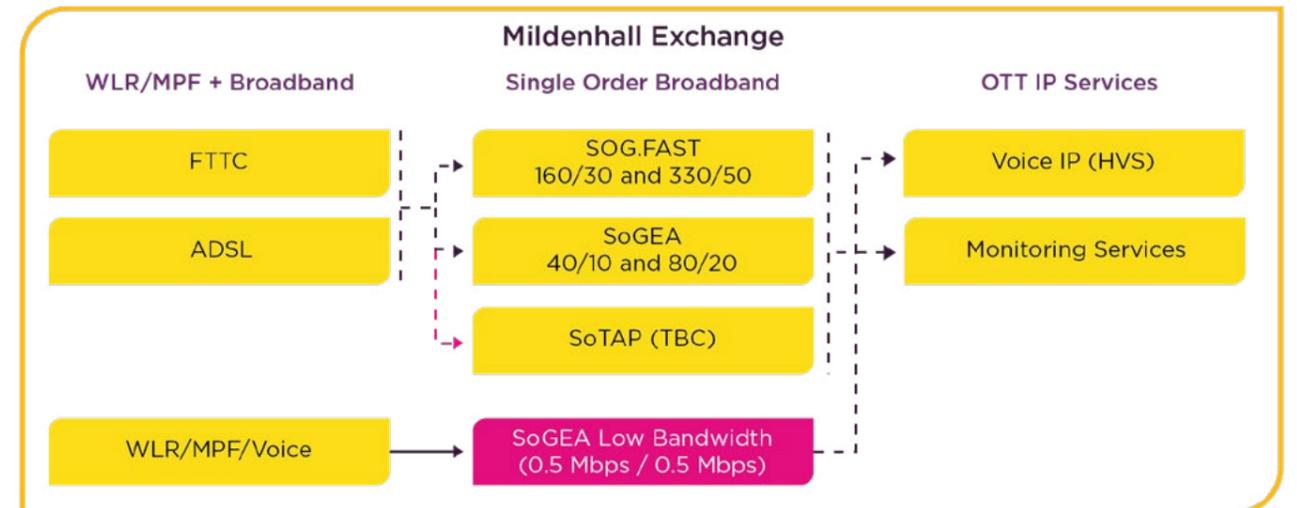
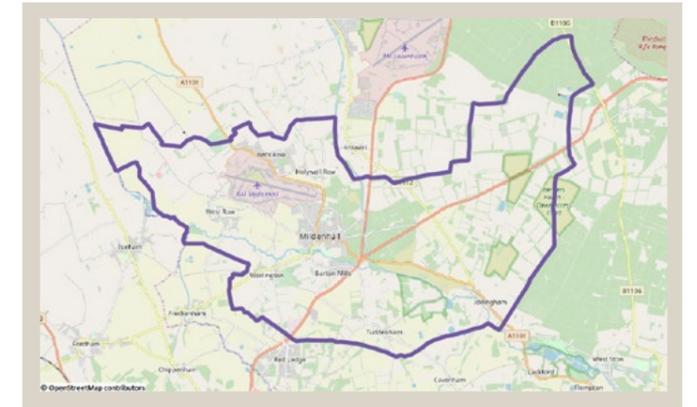
**What will be communicated to the public?**

Openreach have a public facing webpage for Salisbury with a video explaining the fibre roll out, alongside a digital campaign and local radio partnership. Your communication to your customer is also key, but this content can support you when explaining the transition.

The Mildenhall Trial will see the full withdrawal of WLR as well as the transition to Single Order fibre and ADSL products.

To facilitate the trial, new provides for both FTTC, ADSL and WLR will be restricted. Transfers and working line takeovers will also be restricted.

Modifies that increase or decrease the asset base will also be restricted, this includes increases and decreases of lines/channels, but also modifications to over the top broadband FTTC and ADSL services.



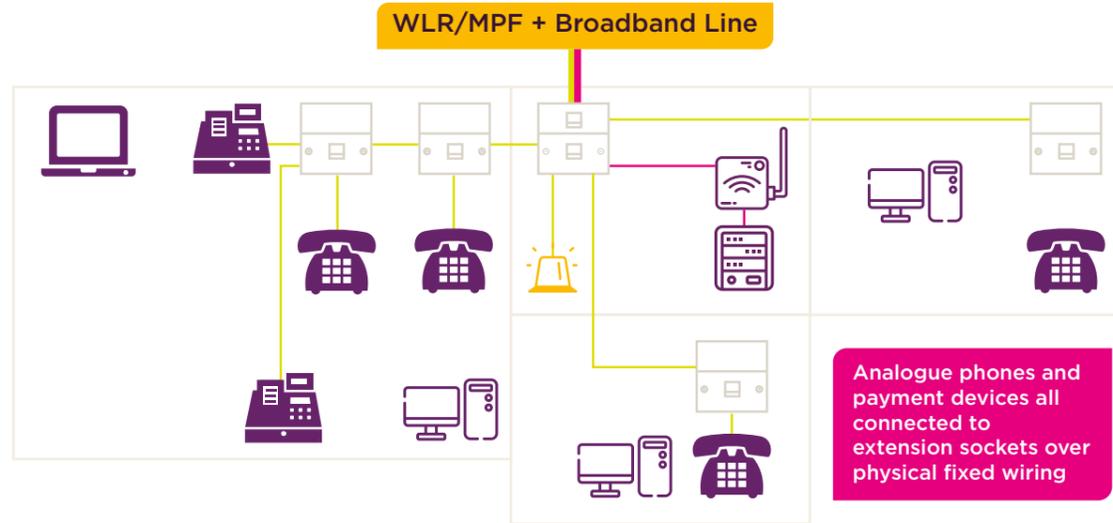
**Statistics**

- > 7.5k residential premises
- > 750 business premises
- > Openreach Handover Point (OHP) at Newmarket
- > Aim for 100% WLR Withdrawal
- > WLR and MPF will be restricted

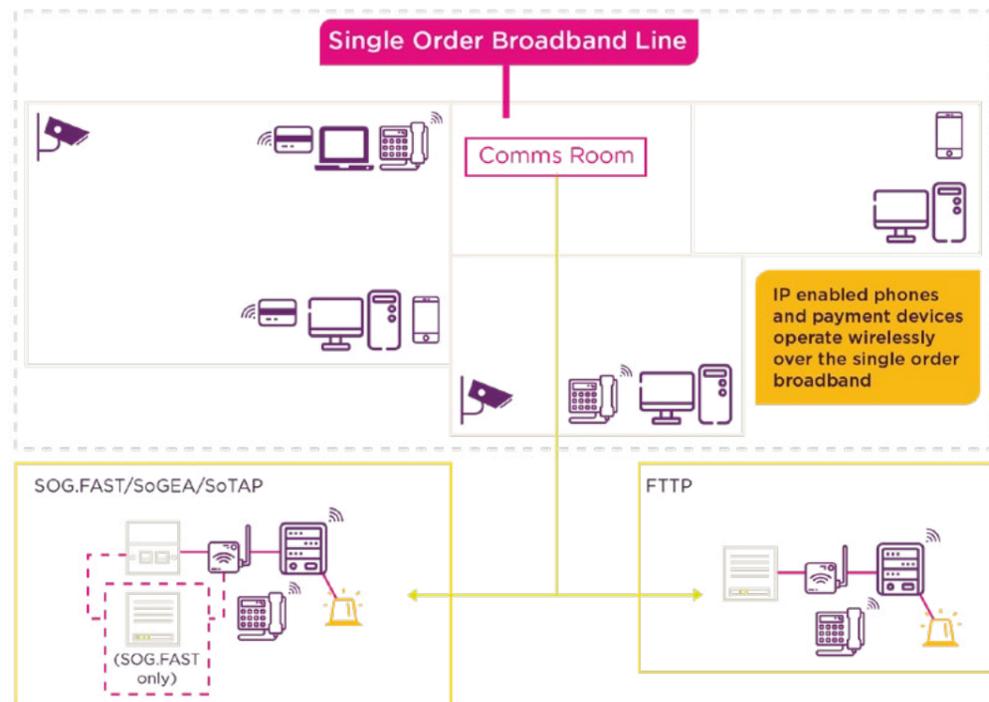
**Why Salisbury and Mildenhall?**

The exchanges were selected for a number of reasons, including: the range of CPs that have services in the areas and a mix of business and residential lines along with organisations and Critical National Infrastructure (CNI).

Alongside your customers' product set changing, the way customers operate their day to day business functions is also likely to change. Below is an example of a small business customer with analogue office telephones, payment devices and alarm services, all connected via physical wiring and socket extensions.

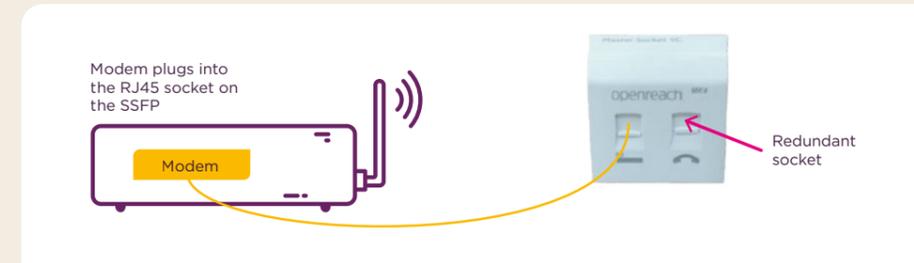


Following the customer migration, all devices will need to be compatible with IP. Onsite premise equipment may need to be changed.



- Telephone extension socket
- Master socket (NTE5c)
- Analogue telephone
- IP wireless phone
- Openreach modem (FTTP & SoGFAST)
- Laptop
- Mobile
- Switches, firewalls and other devices
- Alarm system
- IP CCTV
- IP payment device
- Till system
- PC
- Modem/router (wireless)

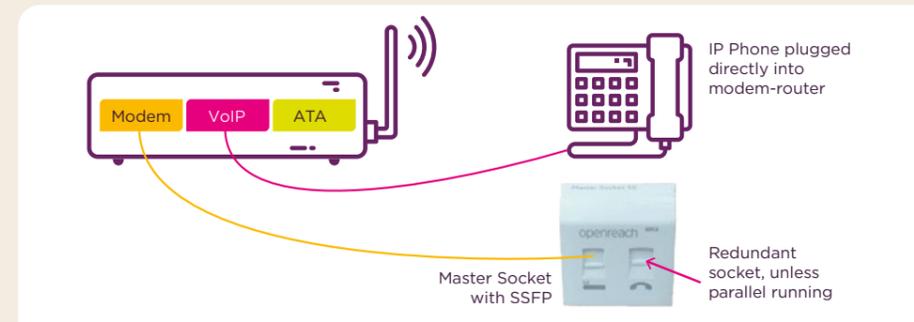
Below are examples modem/router setups at the main (master) socket for SoGEGA services.



SoGEGA without IP or ATA voice:  
> SOGEGA with SSFP



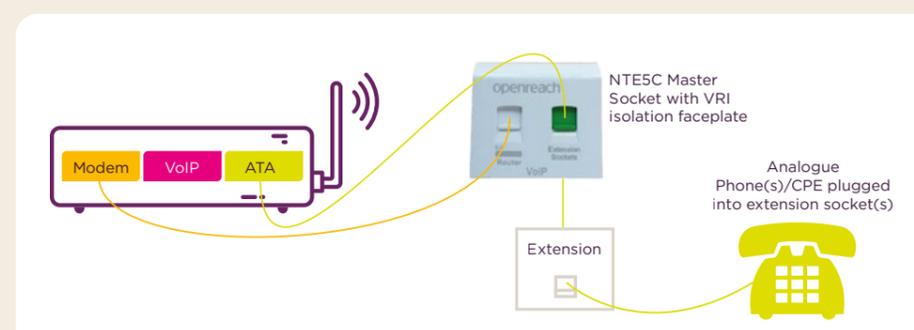
> SOGEGA with micro filter (no extensions)



SoGEGA with IP/ATA voice 'over the top' VoIP:  
> SOGEGA plus IP Voice



> SOGEGA plus ATA derived voice



> SOGEGA plus ATA derived voice over extension wiring and isolated VRI

Wider industry engagement has already begun, with Ofcom and Openreach focusing on the impact on Critical National Infrastructure (CNI) sectors, which will include: Chemical, Civil Nuclear, Defence, Emergency Services, Energy, Finance, Food, Government, Space, Transport and Water. CPs are also encouraged to support their Special Service providers, where possible.

This includes:

- > Local authorities
- > NHS customers
- > Customers who supply lift and escalator services
- > Water and utility businesses
- > Alarm and monitoring businesses
- > Vulnerable customers

These customers are likely to have equipment which rely on analogue technology to function. At this stage, **CPs should encourage the equipment manufacturers that they work alongside to test their equipment on the new services in the Openreach test lab.**

**Openreach Test Lab**

**Purpose:** Third parties/Special Service providers can test their equipment on FTTP, SOGEA, SOGFAST, SOTAP (when available) and Ethernet.

**Access:** Within the Openreach Head Office in London, a newly situated industry meeting room will be available from May 2020 onwards. Initial access will be for CPs to install Single Order services for testing and third parties/Special Service providers should engage their CPs for testing.

**Mechanics:** It is intended that the lab will be booked for a ½ day or full day at a time, with access expected to be free of charge. The facility will have benching and power sockets, and include tests for: line loss, delay, jitter and in-premise traffic to emulate real life conditions.



It is important to be mindful of third parties who you do not directly support when migrating your customers to new Single Order broadband products. To help you, Openreach have **published several principles which should be implemented into your sales and provide processes** when migrating services. These will help ensure that you handle Special Services correctly, but also make the most of the customer experience when migrating.

**BEST PRACTICE PRINCIPLES - RESIDENTIAL**

- > **Duty of care** - Proactively try to **identify lines with Special Services** by asking your customer questions such as “Do you have any health care or alarm devices that could be used by your telephone line?” You will also need to **ensure that your customer is aware that such devices need to be VoIP compatible** and that **a local power supply is available** to power such devices.
- > **Time conscious** - If your customer does have additional services on the line, **allow them time to contact their appropriate equipment provider** (local authorities for health pendants, or alarm/monitoring provider). A minimum of 10 working days is recommended.
- > **Understand the journey** - The correct order journey can improve the experience of the migration. For residential customers, it is important to **ask about extensions on their property** and **chose the right type of installation**, alongside identifying the requirement to retain their number.
- > **Point of sale** - Provide as much information as possible at the point of sale. This should include providing a clear understanding to your customer about **what is happening, any risks and if anything will change on the premises**. You should also provide a **dedicated point of contact** to help if something goes wrong.
- > **Be flexible** - It is better to **postpone a migration** than let vulnerable customers lose special services that they rely on. In cases where there is a threat to life, **a roll back process** will be available.

**BEST PRACTICE PRINCIPLES - BUSINESS**

- > **Duty of care** - Business best practice principles will need to follow those of residential, but you should be mindful that there might be different types of special services that need a special **point of sale script** creating. For example, you will need to ask if the customer is using card payment terminals that could be business critical.
- > **Time conscious** - Businesses can have **complex migration activities and porting requirements**; you need to allow time for them to co-ordinate these activities.
- > **Clear communications** - This is also important for residential lines but, where possible, all parties impacted by the migration should act with integrity, providing clear communication to ensure a seamless transition. **All parties (Voice, Broadband and Special Service providers) should work together.**
- > **Understand the journey** - The correct order journey can improve the experience of the migration. For business customers, it is important **what type of equipment they have, including any plans for IP voice**, if you are not their VoIP supplier. This will enable you to provide the correct installation type.

To incorporate the above into your business, we recommend that you develop your own structured questions at point of sale. Your method may vary depending on your point of sale experience, for example, face to face, automated online journeys and tick box confirmations to telephone scripts.

The VoIP world provides you with more options to fulfil your customers' voice needs. You are no longer bound to the limitations of fixed lines, with increased flexibility not meaning just the ability to move your customer's number to another area.

Taking our market-leading HV.Select IP voice solution as an example, you can use one service to provide your customers with everything they could ever want, and get creative with the extras you get included for free. Below are a just a few examples of how you can package this product for different customers.

**Customer Type:**



Residential

**Example Proposition:** Simple Voice

**Function:** Use the hosted user licence to overlay the broadband services with Voice, providing an ATA router so that your customer can still use their old telephone equipment. Opt to offer free minutes, or reduce the rental price and charge for minutes. You could also charge for some inclusive features that customers expect to pay for, e.g. voicemail and call barring.

**Features:** Call forwarding, selective call barring, caller display, voicemail.

**Customer Type:**



Sole trader

**Example Proposition:** Pocket Landline

**Function:** Use the HV.Select hosted user license to "liberate your landline" and provide your customer with their number direct to mobile via the UC Application.

**Features:** Mobile application, online auto attendants, call logging and voicemail.

**Customer Type:**



Small/medium business

**Example Proposition:** Total Business VoIP Telephone System

**Function:** Combine your new Single Order broadband services with a package deal and offer new IP handsets and business-grade Voice licenses.

**Features:** Auto attendants, hunt groups, call forwards and **free** desktop UC clients - all on an easy to use online management portal.

**Customer Type:**



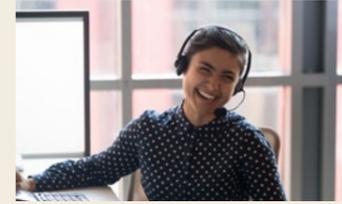
Small/medium business with existing IP compatible telephone system

**Example Proposition:** Business VoIP Lines Only

**Function:** Use the HV.Select SIP service to provide business VoIP services with your broadband and your customer's existing IP enabled telephone system.

**Features:** With HV.Select SIP, they will still have access to the online portal, enabling them to take the first step to a full business VoIP telephone system when they are ready.

**Customer Type:**



Small to medium business with an IP incompatible telephone system

**Example Proposition:** Business VoIP Lines Only.

**Function:** Use the ISDN to SIP Converter device to enable use of the existing telephone equipment with HV.Select SIP. An easy online management portal means you don't need to re-programme your customer's PBX, just the ISDN to SIP, making the switch simple.

**Features:** All the features of HV.Select SIP without the need to replace all the customer's wiring and equipment.

**Customer Type:**



Large multi-site business

**Example Proposition:** Enterprise VoIP

**Function:** Make use of the HV.Select and SIP services hybrid technology, utilising mixed PBX sites as well as sites ready for fully hosted VoIP and new IP phones.

**Features:** Hybrid sites and on-net calls, channels sharing SIP Trunking and access to additional upsell features, such as call queues and call recording.

For more information and pricing on HV.Select and our IP Phones, speak to your Account Manager.



**What are Single Order products and how different are they?**

Single Order broadband becomes the primary data service, which enables you to offer over the top IP services, such as Voice IP (replacing the WLR/MPF voice). This changes the way in which broadband services are currently delivered, i.e. there is no requirement for a WLR/MPF voice line in order to offer broadband and other IP solutions. In terms of broadband technology, they remain the same as currently available, for example, SoGEA is the same as FTTC with the only difference being that there is no WLR/MPF voice line associated with the service. See the mappings earlier in this guide for more.

**What is the impact to our business?**

In short, any solution/hardware you currently offer today that requires the PSTN to operate will be impacted, hence you will require new solutions/hardware which are IP enabled to support the Single Order products.

For some, this is a key transformation that provides an opportunity to offer all IP solutions. Any services that you currently offer that rely on the PSTN will no longer work. This will include the WLR/MPF voice service and features, as well as devices such as alarms and payment machines which are not IP enabled. If you provide healthcare solutions or have vulnerable customers, they will also be impacted.

**WLR withdrawal deadline is December 2025, should I just wait until then?**

Although December 2025 is the deadline, as mentioned above, the trial exchanges are taking place before this date. Hence it is important that you offer Single Order broadband and any over the top IP solutions to transition your current customers, ensuring that you are fully prepared. If you do not, there could be a risk that your customers may choose Single Order broadband and services with another provider. Likewise, it is also an opportunity to grow new business by offering Single Order broadband.

**What should I do in preparation?**

You should review the current solutions that you offer. For example, if you have WLR voice services and wish to continue offering voice services, the transition product will be a Voice IP solution. Please use the mapping diagrams in the guide to help you understand which Single Order products and over the top services you require.

DWS will offer Single Order broadband products and compatible routers. We also offer our Voice IP solution (HVS), all of which can be provisioned through our intuitive portals.

If you provide payment devices that are not IP enabled, you should contact the vendor about your options and, more specifically, IP enabled solutions.

You should also consider reviewing and/or implementing the best practice principles mentioned in this guide to help your operational teams with your customers' transitions.

For further information, please contact your Account Manager.

**What about lines with Special Services?**

Alarms, lifts, care pendants and payment terminals all use analogue lines. It is important to try to identify any line you support with such services prior to moving any services. For more information, see the Special Services section of this guide.

**What if there are two providers, one for the broadband and another for WLR?**

Openreach will recognise the line provider as the existing communications provider. Therefore, it is expected that commercial incentives planned for the trials will only apply to the line providers, not the broadband provider.

**Will Calling and Network features be impacted?**

No, in the trial instances and the nationwide Stop Sell, you will still be able to provide calling/network features, such as call barring, presentation number, call diverts and so on.



In December 2018, Openreach, the company that maintain the UK's telephone network and infrastructure, formally announced the withdrawal of their fixed telephone line products, with the vision to upgrade their network to more robust fibre products. Openreach now have a five-year programme in place, whereby a complete withdrawal of their fixed line services will be completed by December 2025. If you do not use your telephone line, you might still be impacted. Please take time to read the below information carefully.

#### Why is this important to me?

This is a national change that involves one of the biggest infrastructure modifications, whereby broadband services that currently rely on the analogue phone line and voice services will be withdrawn. These will be replaced with future-proof broadband services, including Ultrafast and Superfast Fibre.

#### Why do this now?

Analogue and other lines, such as business ISDN lines, have been used for many years to serve the UK for both its voice and broadband needs. The underlying technology is dated, becoming harder to maintain to support the future of broadband and the UK's transition to better digital services. Thanks to the advancements in fibre technology, which offer faster speeds and reliability, the focus is now to expand the fibre network, making it a better solution to today's online demands.

#### How will this impact me?

If you use your telephone line for making and receiving calls, your service will need to be updated. Any additional services, such as alarms, healthcare pendants or CCTV features that use your telephone line will also need to be considered. You need to advise your provider that your line supports these additional services, as they may not be aware.

If you are using a broadband which relies on telephone line, you can migrate to a single order broadband product.

#### How do I find out what broadband service and speeds I can have in my area?

Before you move, we can check what is available for your area and address, in some cases we may be able to check if there is any faster technology planned. When you buy a new broadband service, we will provide you with the speed that you will currently be able to obtain.

#### What happens to my voice service when I move?

Your voice services will stop working and instead you can migrate to a VoIP service, whereby you continue to make/receive calls, keep your existing telephone number and enjoy high quality voice and a range of call features. You may choose to use your existing phone (if compatible) or take advantage of new handsets designed for VoIP.

#### What is VoIP?

Voice over Internet Protocol (VoIP) offers higher quality voice and features which rely on a working broadband service.

#### If I move to the new Single Order broadband, can I move my telephone number to the new VoIP service all at once?

Yes, we can migrate your line to a Single Order broadband product and provide you with voice all at the same time. There might be a small period of downtime whilst your new service is activated, and your telephone number migrates from existing phone line to voice service.

#### I only use broadband, therefore, do I still need a voice service?

No, one of the benefits of single order broadband products means that you do not require a voice service. Rather, the voice service is an optional add-on to your broadband service.

#### What should I do with my old telephone(s)/device(s) once I move to Single Order broadband?

Simply disconnect it from the telephone socket, as it may cause interference with your Single Order broadband.

#### When I have signed my new contract, how long will it take to move?

If you just have a single line and number to move, we will work to a minimum of 10 working days. This gives you time to check with any other equipment provider you might be using (i.e. your health pendant provider or alarm provider) that your service will continue to work. It also gives us time to book in the required migration and move your telephone number.

#### I only use the voice service; do I have to order broadband too?

As the analogue line is being withdrawn, the replacement product will be Single Order Broadband only. However, a lower voice bandwidth product is available to enable you to use VoIP so that you can continue using voice only service.

#### I am a business that relies on devices such as alarm systems, lift lines, card payment machines and FAXs - will these work with the new Single Order products?

It is important that you contact the vendor of these devices to confirm whether they are IP compatible. If not, then you will need to source new devices which are IP compatible, to allow you to continue running your business. Otherwise, these devices will stop working when moving to a Single Order product.

#### My broadband/data usage is very low, do I still need to move to the high-speed packages?

We recognise that not all broadband users are the same in terms of their usage, for instance, your business may rely on processing transaction payments only and does not stream online media content or that of a typical residential user. In these circumstances, a low bandwidth, symmetrical 500 Kbps (0.5 Mbps) package is available.

#### Due to my health, I rely on critical services or I am classed as a vulnerable customer, what should I do and how will this impact me?

If you have services such as Redcare or rely on life pendant services, then we strongly recommend that you contact the vendor for further assistance. It is highly likely that these critical services rely on the analogue line service to work, hence that there is an exception whereby Openreach will not withdraw the service until a compatible solution is in place to continue support for such customers and their reliance on these services until the December 2025 deadline.

#### Are vendors of these services aware?

Openreach are engaging with vendors of such services, via consultations/workshops, and are setting up a test lab (as mentioned in this guide) to help enable vendors to transition their products so that they become compatible with Single Order broadband. This ultimately ensures that a complete withdrawal can be achieved by December 2025.



<b>ADSL</b>	Asymmetric Digital Subscriber Line
<b>ATA</b>	Analogue Telephone Adapter
<b>BBU</b>	Battery Back Up
<b>CNI</b>	Critical National Infrastructure
<b>CP</b>	Communication Provider
<b>CPE</b>	Customer Premise Equipment
<b>EMD</b>	Early Market Deployment
<b>FTTC</b>	Fibre To The Cabinet
<b>FTTP</b>	Fibre to the Premise
<b>IP</b>	Internet Protocol
<b>ISDN</b>	Integrated Services Digital Network
<b>LLU</b>	Local Loop Unbundling
<b>MPF</b>	Metallic Path Facility
<b>OHP</b>	Openreach Handover Point
<b>ONT</b>	Optical Network Termination
<b>OTT</b>	Over the Top
<b>PSTN</b>	Public Switched Telephone Network
<b>SO</b>	Single Order
<b>SoGFAST</b>	Single Order Generic Ethernet Access Fast
<b>SIP</b>	Session Initiation Protocol
<b>SLU</b>	Sub Loop Unbundling
<b>SMPF</b>	Shared Metallic Path Facility
<b>SOGEA</b>	Single Order Generic Ethernet Access
<b>SOTAP</b>	Single Order Transitional Access Product
<b>UPS</b>	Uninterrupted Power Supply
<b>VRI</b>	Voice Re-Injection
<b>WLR</b>	Wholesale Line Rental