

SOGEA **Product Description**

GIACOM.

Version Control

Date	Version	Author	Comments
06/06/2022	V3.0	Adam Shaw	New version release.
14/03/2023	V3.1	Adam Shaw	Advanced Install SVR

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1.0 Introduction

This document aims to provide detailed information about the Giacom SOGEA Service, features and options to help you understand the underlying technologies; enabling you choose the right solutions for you and your customers.

One of the many benefits in partnering with Giacom are the highly competitive broadband rates we provide to our partners. This is due to our successful strategy and buying power, which enables us to secure competitive rates with our suppliers and in return these cost savings are passed on to our partners. Thus, allowing a diverse range of our partners to remain competitive in the market and continue to grow their business. Listed are the broadband technologies we offer:

- > GEA FTTP
- > GEA FTTC, G.FAST and ADSL (with WLR)
- > Single Order (GEA FTTC and ADSL without WLR): SOGFAST, SOGEA and SOTAP/SOADSL

For information on the other Broadband services offered by Giacom, please refer to the Product Description documents for those services.

2.0 What Is SOGEA?

SOGEA stands for Single Order Generic Ethernet Access. In summary, it is a hybrid solution of traditional copper wiring and modern fibre broadband technology whereby fibre technology comprises the majority of the cabling, with copper wiring providing the connection between the Green Cabinet (PCP) and the end user premises. Since fibre technology carries data signals using pulses of laser light and by doing so can achieve higher speeds with greater stability. SOGEA, as a hybrid solution, offers far better reliability and stability than ADSL or copper only solutions.

SOGEA and SOGFAST use the existing broadband VDSL technology currently delivered over the GEA-FTTC (Generic Ethernet Access - Fibre-to-the-Cabinet) network. It shares the same data rates, performance and stability i.e. SOGEA = FTTC and SOGFAST = GFAST.

The only exception is that SOGEA/SOGFAST do not have or share the PSTN line or WLR service (whereas FTTC/GFAST do).

Openreach have announced the withdrawal of WLR, which means the traditional delivery of voice and other services across the PSTN (Public Switched Telephone Network) will come to an end. A stop sell of these services will take effect from 2023 and complete withdrawal by December 2025. The SOGEA service does not require WLR and all other services (VOIP etc.) can be added as over-the-top services which clients can choose at the IP layer and above.

SOGEA is one of several broadband service options made available to replace traditional ADSL services after 2025. As a group these services are referred to as Single Order products and share a common methodology in how the broadband is delivered, in that the broadband service is the underlying technology to deliver data and over the top IP services such as Voice over IP (VoIP), enabling the transition to a true digital IP solution.

2.1 SOGEA feature comparison

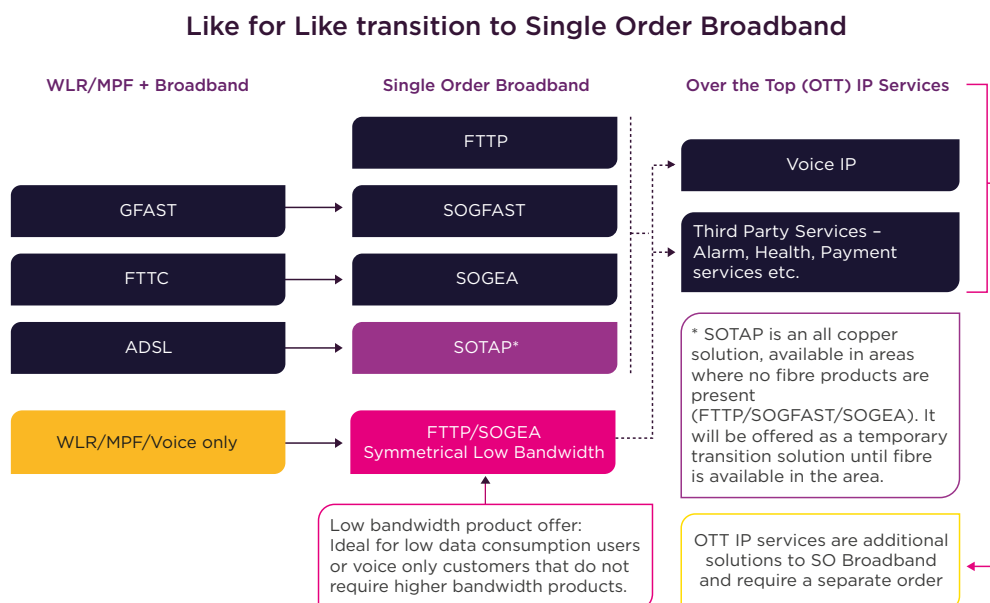
- > Future proofed for the WLR withdrawal - stop sell WLR is 2023, switch off 2025
- > Singler order journey during provide; upgrade or migration
- > Uses the same technology as WLR based FTTC
- > Unmetered data usage & a variety of IP address options
- > Standard and Elevated throughput options

Below is a table showing a comparison of of the different speeds and coverage levels provided by FTTP; SOGEA and traditional WLR based broadband. This is included to provide context for the different services. For more information on FTTP or WLR based products, please see the appropriate Product Description documents.

Product Name	Download Speed Max	Upload Speed Max	Current Coverage (premises)	Details
Single Order Products (no WLR required)				
FTTP	1 Gbps	115 Mbps	4.7 Million	Recommended service to future proof product
				Highest speeds
				Lowest latency
				Most robust connection
SOGFAST	330 Mbps	50 Mbps	2.7 million	Hybrid solution of copper and fibre
				Only available within 200m of PCP
SOGEA	80 Mbps	20 Mbps	28.5 Million	Hybrid solution of copper and fibre
				High speeds
				Transition to full fibre at later point
Traditional Broadband products (Requires WLR)				
GFAST	330 Mbps	50 Mbps	2.7 million	Only available within 200m of PCP
FTTC	80 Mbps	20 Mbps	28.5 Million	Better speeds and a more robust connection than ADSL
ADSL	24 Mbps	1 Mbps	30 Million	Supply conventional connection needs for small to medium businesses until 2025

2.2 Other Single Order Broadband Solutions

Below is a diagram showing the broadband products to be withdrawn and their like-for-like transition to the new Single Order Broadband variants.



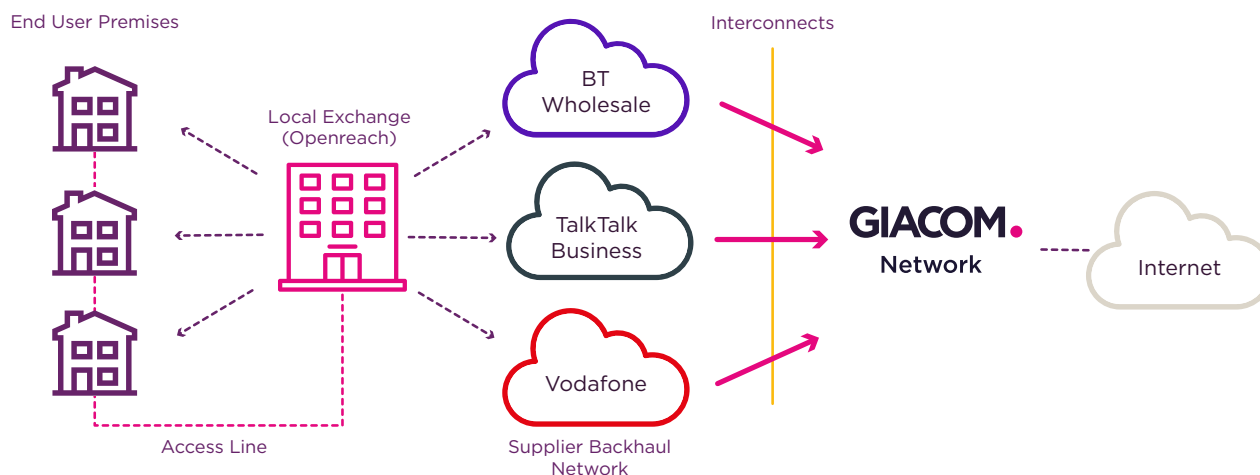
2.3 SOGEA Service Providers

The access line for the Broadband service is owned and maintained by Openreach however we use the following providers to supply the connectivity from the local exchange to the Giacom Broadband Network via interconnects:

BT Wholesale (BTW)	Vodafone (VODA)	TalkTalk Business (TTB)
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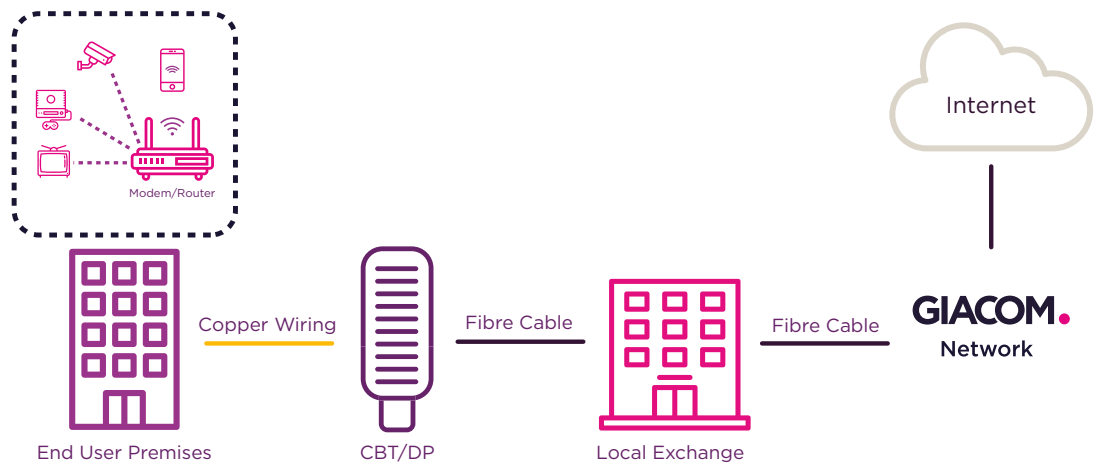
2.4 Broadband Infrastructure

Broadband is a service that enables customers to connect to the internet over a shared fixed infrastructure (access line). It is an asymmetrical service, meaning that the download speed is greater than the upload speed. At the customer's premises, a modem or wireless router solution provides local network features such as Wi-Fi and acts as the gateway for the customer's devices to access the internet. It is an always on, reliable, and cost-effective service.



2.5 SOGEA Access Infrastructure

As mentioned previously SOGEA uses the same technology as current FTTC product. Fibre technology is used from the local Exchange to the PCP (green street cabinet) and then copper from the PCP to the EU premises. This provides faster speeds (up to 80 Mbps) and greater stability over ADSL or copper only solutions.



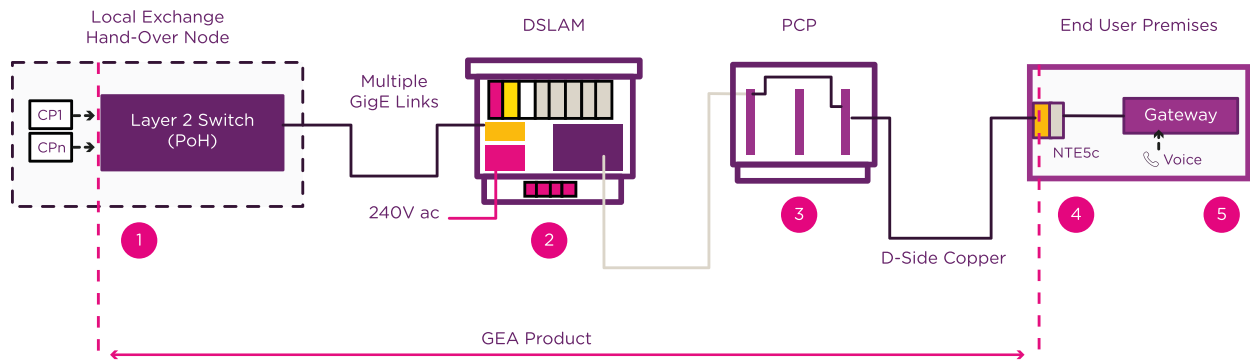
- > SOGEA uses the Network Termination Equipment (NTE) installed to terminate the external copper path within the end customer’s premises.
- > SOGEA provides the same deployment options as FTTC, covering 28.5 million premises in the UK.
- > In current deployment SOGEA has an overall capacity to deliver 80Mbps downstream information.
- > Within 200 metres of the PCP customers may be eligible for elevated speeds using SOGFast. This is based on stability of the copper line within the area and is not a guaranteed service.

All SOGEA packages come with ‘Unmetered’ usage policy allowing customers to use as much data as they need to (subject to the parameters of the acceptable usage policy).

(subject to the parameters of the acceptable usage policy).

Technology	Type	Download Bandwidth (Up to)	Upload Bandwidth (Up to)	UK Availability
FTTC (SOGEA) Low Bandwidth	Single Order	0.5 Mbps	0.5Mbps	>28 million
FTTC (SOGEA)		40 Mbps	10 Mbps	
		80 Mbps	20 Mbps	
FTTC (SOGFAST) COMING SOON		160 Mbps	30 Mbps	>2 million
		330 Mbps	50 Mbps	

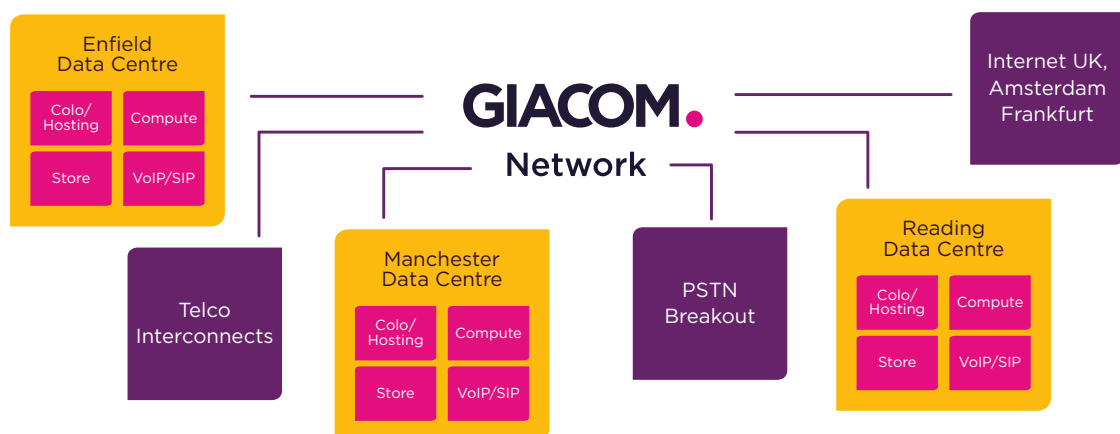
2.6 Detailed Access Infrastructure



1. Services are connected, via GEA cable links, to the Layer 2 switch at the Point of Handover (PoH) within the local exchange.
2. From there, multiple fibre optic cables (in blue) feed out to the local DSLAMs (Digital Subscriber Line Access Multiplexer) positioned near by the local street cabinets (PCPs - Primary Cross-connection Points).
3. The black "D-side" (Distribution-side) copper cable runs from the PCP to the end customer's premises and finishes up at the master socket, also known as Network Termination Equipment version 5 (NTE5).
4. Here, a NTE5 socket terminates on the end user premises. There may already be a Service Specific Front Plate (SSFP) onsite however the phone port is not to be used or connected with an analogue/DECT phone as this may interfere with the data signal.
5. Finally, your router/modem is connected to the SSFP to deliver the SOGEA broadband service. If you have a VoIP solution you may connect your phone to the router provided it has an ATA port.

3.0 Giacom Network

Giacom broadband products are designed to be suitable for every type and size of customer, providing an ISP with over 20 years' experience of owning and operating the network. We offer a full suite of Fibre Broadband products including Fibre to-the-Premises (FTTP), Single Order Broadband (SOGEA, SOGFAST), Fibre-to-the Cabinet (FTTC and G.FAST), as well as ADSL Broadband.



Our clients have the ability to either utilise us as their primary ISP or link the network to their own backhaul infrastructure as below.

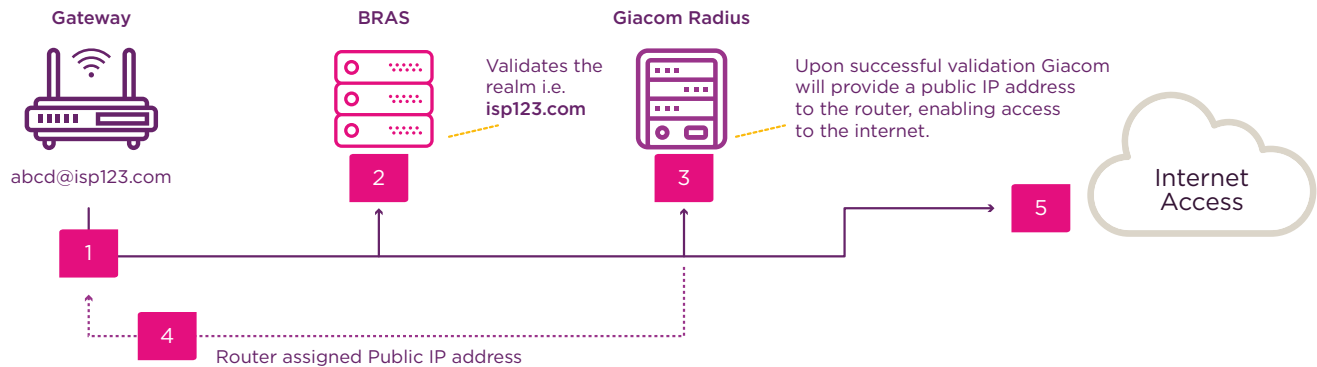
3.1 Authentication & Broadband Realms:

As a client you may already have your own backhaul network infrastructure where you provide internet breakout but essentially require Giacom to provide the access line connectivity. Giacom can accommodate this via the Layer 2 Tunnel Protocol (L2TP) solution whereby the Giacom network will tunnel your EUs connection requests to your network allowing you to fully manage the authentication and EU traffic.

In particular, the username consists of a realm which is a key identifier as to the origin of the ISP.

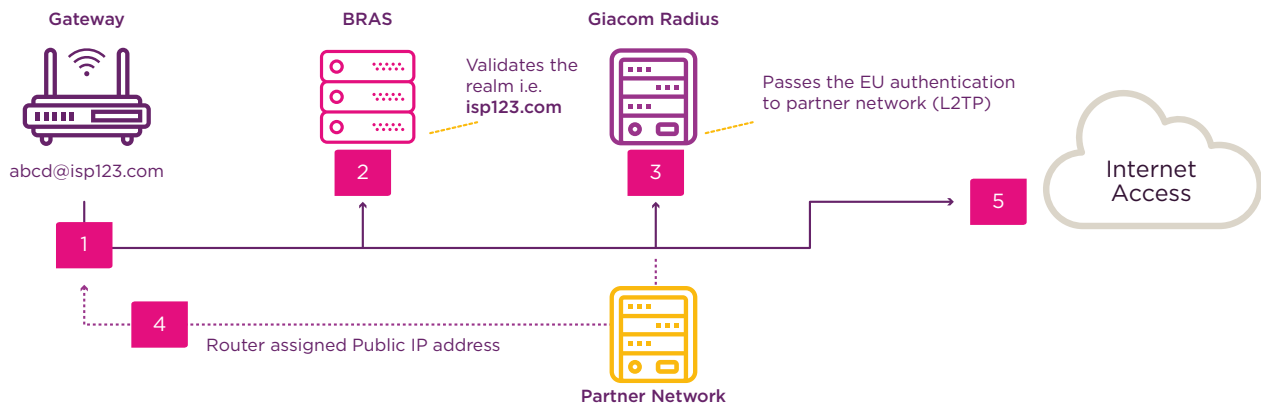
It looks something like this: **abcd@isp123.com**.

The characters after the “@”symbol (from the example above **isp123.com**) are known as the realm.



For SOGEA services the authentication process remains the same, you have the option of using Giacom pre-registered domain/realm or alternatively you can register a new domain/realm.

If you choose to connect to the Giacom network via the partner network solution, then the EU will authenticate on your own RADIUS platform.



3.2 Public IP address options

Giacom offers Dynamic, Static and Routed IPv4 ranges (public) which functions to connect customers to the Internet and on-net services such as Digital Voice Services and VOIP.

Dynamic IP - A single IP address, which is obtained from a pool of IP addresses. This IP address may change i.e. it is not a fixed IP address. This is great for residential users or users who do not require dedicated monitoring or remote access to their devices.

Static IP - A single static IP address which is assigned to the service. This is ideal when dedicated monitoring is required or the user requires to access devices remotely.

Routed Range - A range of public IP addresses allowing you to run your business such as mail servers, firewalls etc. Typically, through the Giacom portal you can obtain a routed range of either '/30' (4 IP addresses of which 2 are usable) or '/29' (8 IP addresses of which 6 are usable).

NOTE: *If larger ranges are required, please contact your account manager.*

Giacom can also advertise partner owned IP addresses from our network. This is particularly useful if you don't have a network but still want to appear as a full ISP on the Giacom network. Giacom will advertise Partner IP addresses from the Giacom network and enable these IP's to be provisioned on Broadband services in the Giacom portal.

4.0 Packages

The information below highlights technical and support information required for the understanding of the SOGEA service. For more detailed information on the available packages for SOGEA please refer to the Broadband Rate Cards document.

Important

Ordering SOGEA will cease any existing WLR service. Furthermore, the WLR service cannot be reinstated.

SOGEA cannot currently be used to provide faster speeds and services over exchange only lines where the D-side copper runs directly from the local exchange to the end customer's premises.

Important Considerations:

SOGEA along with other Single Order products are still undergoing industry learning in relation to WLR withdrawal. There may be circumstances whereby PSTN compatible solutions/hardware (Alarm systems, Payment devices and Critical Services) are incompatible with SOGEA because they are not IP enabled. These devices or services will cease to function on a SOGEA connection.

Before ordering/replacing existing broadband + WLR/MPF services with SOGEA you should identify any reliance on devices or solutions which require a working PSTN network to operate and determine whether these services can be safely removed/ replaced/ migrated to a SOGEA connection. Examples of such technologies are:

- > Red Care services or vulnerable customers who are using pendant solutions
- > Businesses/services that rely on phone systems based on PSTN technology such as a medical practice (whereby a VoIP solution cannot be offered)
- > PSTN based payment machines, fax machines, Security systems and Elevator/Lift services and critical services with built in emergency calls

4.1 Order Types

Connection Charge - A charge levied by the carrier for work relating to the connection of a new service. For information on Connection Charges and exceptions please refer to the Broadband Rate Card

Re-grade - Modifying the product a service is on within the same technology type, e.g. modifying the access speed of an SOGEA line from 40/10 to 80/20 (where available).

Modify - Changing the product within the same technology type (also known as a Re-grade, see Re-grade for more information), changing the care level, DLM, or interleaving (where applicable).

Migrate - Applicable when moving a service from one supplier to another where the technology type isn't changed (e.g. Openreach SOGEA on Supplier A to Giacom Openreach SOGEA). If migrating from another CP to a different technology type, e.g. FTTP to SOGEA or Changing from a completed different SOGEA provider (other than Openreach); commercially this is the same as a termination with the existing CP and a new provide with Giacom.

Modify/Re-grade (Rate Card Change) - Applicable to modify/re-grade orders where the product is changed to a product on a different rate card, but the product type and usage limit remains the same.

4.2 In-Flight order Amendment, Expedite and Cancellations

Once an order has been processed and accepted it is considered “In-Flight”. In-Flight orders may still be amended with the following caveats as listed below.

- > **Early Order Cancellation:** Up to PONR (Point of no Return) Defined as 1 working day Original Order Date (OOD) before 16:00
- > **Order Amendment up to PONR:** An amendment carried out on an in-progress order, up to the PONR (Point of no Return). Defined as 1 working day before Original Order Date (OOD) before 16:00
- > **Late Order Cancellation:** Late Order Cancellation after PONR (Point of no Return). Defined as 1 working day before Original Order Date (OOD) after 16:00
- > **Expedite Orders:** A charge applicable when an expedite order is placed to bring forward the connection date of a service. Expedite orders are carried out on a best endeavours basis by our suppliers, and there are no guarantees on how early a connection date can be brought forward. In the event that a connection of service isn't able to be brought forward, there will be no charge for the expedite order.
- > **Note:** At the present time Vodafone is unable to expedite orders and this option is only available for BT Wholesale

4.3 Product Bandwidth Rates and Elevated Traffic Options

Bandwidth refers to the maximum theoretical rate of data transfer across the network path, as opposed to throughput which refers to the ability to pass data through the network at a given rate, which depends on not only the line speed but also the available bandwidth between the end user and the source of the data.

SOGEA customers can select either Standard or Elevated downstream throughput options, which provides preferential weighting in the BRAS (Broadband Remote Access Server) and provides a higher throughput under congestion of the shared VLAN between the BRAS and the handover point during busy periods. The minimum “Reasonable Efforts”

planned downstream throughput speed pertains to downloads only and there is currently no SLA governing upload throughput on the SOGEA service. The standard option is applied to all packages however the elevated option is available as an additional charge to allow better performance during any potential contention periods.

Product Bandwidth	Service	Minimum “Reasonable Efforts” Planned Downstream throughput
0.5/ 0.5	Standard	N/A
40/10	Standard Elevated	20 Mbps 30 Mbps
80/20	Standard Elevated	40 Mbps 60 Mbps

Note: 0.5 bandwidth does not have any “Reasonable Efforts” planned throughput for downstream or upstream. All other bandwidth options have a 2Mbps minimum “Reasonable Efforts” Planned Upstream throughput.

4.4. VODA SOGEA Throughput: Downstream Rates

There is no option for elevated traffic rates on Vodafone at the present time and the below table therefore shows only the bandwidth options and the minimum downstream throughput in according with our “reasonable efforts” requirements and process. As with BT Wholesale there is no SLA governing minimum upstream traffic bandwidth and this column simply provides a projected likely minimum threshold the end user may experience.

During normal operation we would expect services to achieve a higher throughput rate than the minimums described below.

Product Bandwidth	Minimum "Reasonable Efforts" planned downstream throughput	Projected minimum Upstream throughput
0.5/0.5	0.5 Mbps	0.5 Mbps
40/10	15 Mbps	10 Mbps
80/20	30 Mbps	20 Mbps

5.0 Provisioning Lead Times

Typical Lead Times (Working Days)			
Provide	Migration	Modify	Install Type
5	10	1	No Site Visit / Standard / Premium / Advanced Prove IP Voice / Install UPS

5.1 BT Wholesale SOGEA Lead Times

As part of the order journey process, you will be required to select if you are provision a new line; upgrading an existing service or migration a service. To assist with this, see the following definitions and tables.

New Provide: A Provision of a newly installed SOGEA line onto a new or existing NTE.

Upgrade: A change of existing services whereby the ISP remains the same but the underlying Broadband connectivity changes, such as moving from ADSL to SOGEA. Configuration information such as the Broadband/ RADIUS username and password will be retained. Additional chargeable changes may be required to hardware or cabling to enable this service.

Migration: Whereby a pre-existing broadband connection on a different service provider is migrated to a new service with the receiving provider. This may include upgrades to feature and functionality as part of the migration such as changes to bandwidth or the underlying broadband connectivity type. This includes working line takeovers and transfers.

Definitions	Order Journey option	Minimum Lead time (SLA)
New provide without any existing service		
A newly provisioned line	New Provide	See new provide/ upgrade table below
Upgrading a service to SOGEA with the same provider		
Existing broadband technology is ADSL	Upgrade ADSL to SOGEA	See new provide/ upgrade table below
Existing broadband technology is FTTC	Upgrade FTTC to SOGEA	
Migrating a service from an old provider onto SOGEA		
Existing technology is SOGEA	Migrate SOGEA to SOGEA	10 working days
Existing technology is WLR with no broadband or Single Order broadband (excluding SOGEA)	Migrate WLR to SOGEA	
Existing technology is WLR with ADSL Broadband	Migrate ADSL to SOGEA	
Existing technology is WLR with FTTC Broadband	Migrate FTTC to SOGEA	
Provide order is placed using a stopped WLR line	Provide SOGEA (Stopped Line)	

Definitions	Order Journey option	Minimum Lead time (SLA)
Migrating a service from an old provider onto SOGEA		
In life changes to existing SOGEA service such as changing bandwidth	New Provide	1 working day
Cease and stop of an existing SOGEA service with no replacement	Cease	5 working days
Cancelling an in-flight order before point of no return (PONR)	Cancel	

New Provide / upgrade table minimum lead time modifiers	Minimum Lead time (SLA)
Where no TMA marker is provided on the availability checker for that line	9 working days (actual lead time is dependent on availability of appointments)
Where TMA marker exists and the TMA requires a Notice	10 working days (actual lead time is dependent on availability of appointments)
Where TMA marker exists and the TMA requires a Permit	14 working days (actual lead time is dependent on availability of appointments)
1 stage (Brownfield sites) where the first appointment work is completed as part of plan and build, and only internal customer installation is required	3 working days
One stage (Greenfield sites) where NTE is pre-installed	3 working days
Single port where NTE is already installed in the premises. This includes if there was a previously ceased service at the premises which is being re-provided.	1 working day

Lead Time Exclusions:

Lead times above are estimates only and may vary depending on appointment availability, the network infrastructure and the status of the existing line/service.

TMA = Traffic Management Act

A process which involves the local council approval to provide Openreach a license to carry out works in order to provide the Broadband service.

ECC - Excess Construction Charges

Where additional chargeable work is required to provide the service. Note that in this instance we will always inform you allowing you to decide whether to go ahead with the work provided you agree to the costs.

PONR - Point of No Return

A point in the provision or repair journey whereby amendments cannot be accepted.

MBORC – ‘Matters Beyond Our Reasonable Control’

Due to unforeseen circumstances Openreach may declare MBORC, for example damage to their infrastructure which may impact and cause delays in the delivery of services.

NoT - Notification of Transfer

OFCOM process which allows a minimum of ten working days notification generated by the gaining provider to the losing provider. This process eliminates the ‘slamming’ of services. This will always be adhered to in a migration scenario.

FTTC Waiters List

In circumstances where the FTTC order is unable to be fulfilled due to Openreach identifying capacity issues at the PCP, the order (provide and migrations) will instead be placed on a waiting list. Openreach on a best endeavour basis will increase capacity usually within 90 days. By placing an order on the waiters list, will mark an active order in progress.

5.2 Site Visit Reason (SVR)

Openreach have introduced revised installation options which reflect the Single Order journeys and are applicable to SOGEA:

No Site Visit

Works will be carried out and the line tested between the premises and exchange remotely. Self install will be required at the End User premises. Ideally suited for customers who currently have a SOGEA service.

Standard

In addition to the activities on a No Site Visit, the engineer will visit the customer premises (via appointment) to carry out works to uplift the network and test the service directly from the NTE along with plugging in the customers router and confirming the service is working. This is ideal for customers who are unable to setup the router for their broadband service, or there is potential wiring issues within the customer's premises. Where required they will attempt to complete the following tasks:

- > Up to 10 metres of internal wiring
- > Install NTE within 1m of 13A power socket at the nearest point to lead-in
- > Ensure wiring meets Openreach standard
- > Connect CP provided router
- > Connect one device such as Set-top box; PC; Laptop or Smartphone. Does not include games consoles; Wi-Fi extenders; MESH units, dongles or any other units.
- > Demonstrate working service

Premium

In addition to the activities of a Standard SVR, the engineer will optimise the Wi-Fi, including setting up plug and play (preconfigured) Wi-Fi extenders or mesh Wi-Fi devices along with testing and demonstrating the speeds of the service. Note that the engineer will not carry out any configuration on unsupported devices in order to resolve connection issues. Where required they will attempt to complete the following tasks:

- > Up to 30 metres of internal wiring
- > Install NTE within 1m of 13A power socket
- > Connect up to two more devices
- > Conduct Wi-Fi analysis in up to three rooms
- > Move router to provide best Wi-Fi coverage
- > Install up to two data extension kits and/or shift NTE/ ONT to where the customer wants
- > Remove powerline adapters (with customer permission)
- > Add voice reinjection plate and connect CP provided cable if required

Advanced

Advanced install provide additional wiring and setup options designed to support larger scale sites including Railway Stations; Large Offices; Schools; Factories and Care Homes. In addition to the activities of a Standard SVR, the engineers will support the following tasks:

- > Up to 100 metres of internal wiring
- > Install NTE within 1m of 13A power socket
- > More complex cabling, e.g. through multiple walls, new cable trunking
- > On existing cable trays running horizontally or vertically using cable ties
- > Through ceiling or floor tiles that are removable and accessible using in-situ cabling (structured cabling)
- > Connect to existing in-building structured cabling e.g. In communications rooms
- > X-marks the spot to indicate preference for ONT install location
- > Unattended install & speed test result

Prove IP Voice - Coming Soon

This optional add-on for the standard and premium SVRs provides additional activity whereby the engineer will install and test a compatible provided VOIP solution for the customer's phones. The customer must have a compatible router and VOIP option available for this service.

Note: The Prove IP Voice option cannot be selected as a standalone option and must be used in conjunction with Standard or Premium SVRs.

UPS: Uninterrupted Power Supply option - Coming soon

The engineer will install a battery backup solution at the time of the service being installed.

Note: battery backup solution/hardware will not be provided by the engineer and must be sourced and provided independently.

Only available with Standard and Premium SVR.

6.0 Care Levels

Care levels allow you to place the importance on the service 'fix time' depending on your customer needs.

The below table show comparison turnaround time for faults at the different care levels for BT Wholesale and Vodafone.

We recommend you consider the care levels depending on needs for example a small business which is reliant on data services will benefit from having **ENHANCED CARE** to minimise potential downtime. All of our packages include the **STANDARD CARE** level.

Care Level	Hours of Work	BTW	Vodafone	Exclusions	Requirement
Basic	Mon-Fri (08:00 - 18:00)	N/A	72 WH	Regional Public and Bank Holidays. Allowable parked time	Only for Vodafone Not available for BTW
Standard	Mon-Fri (08:00 - 18:00)	40 WH	48 WH		Optional for Vodafone Minimum for BTW
Enhanced	24 x 7	20 CH	24 CH	Allowable parked time	Optional
Premium	24 x 7	8 CH	8 CH		

*CH = Clock hours WH = Working Hours

Basic Care (BTW Maintenance Class 1, Vodafone Priority level 3-4): Basic care is included with every Vodafone SOGEA Broadband connection. We will acknowledge and clear the fault within specified times stated above. This excludes any allowable parked time. Engineer appointments to site are available 0800-1700 Monday to Saturday (excluding Regional Public and Bank Holidays). Vodafone Broadband users may choose to upgrade their care levels to decrease repair times as per the above table.

Standard Care (BTW Maintenance Class 5, Vodafone Priority level 3-4): Standard care is included with every BT Broadband connection and Vodafone FTTP, and is optional for Vodafone SOGEA.

We will acknowledge and clear the fault within specified times stated above. This excludes any allowable parked time. Engineer appointments to site are available 0800-1700 Monday to Saturday (excluding Regional Public and Bank Holidays). The following upgrade options are available for Broadband services.

Enhanced Care (BTW Maintenance Class 4, Vodafone Priority level 1-2): Upon receipt of a fault report, We will respond within four clock hours and will clear the fault within 20 clock hours (BTW), or 24 clock hours (Vodafone or TTB), excluding any allowable parked time. Engineer appointments to site are available 0800-1800 Monday to Sunday (including Regional Public and Bank Holidays). Out of hours engineering visits to site may be used to complete a repair if unrestricted access is available.

Premium Care (BTW Maintenance Class 14, Vodafone Priority level 1-2): We will clear the fault report within eight clock hours of receipt, excluding any allowable parked time. If diagnostics indicate a fault and an engineer is required on site, then Openreach will aim to fix any fault within seven clock hours (BTW only) from the start time of the agreed appointment slot. Engineer appointments to site are available 0800-1800 Monday to Sunday (including Regional Public and Bank Holidays). Out of hours engineering visits to site may be used to complete a repair if unrestricted access is available.

Note: that all associated repair times are dependent on access to the end user site should it become required. Where any engineering site visit is required, Sundays and regional public and bank holidays will not be included as part of any on-time repair management.

7.0 Broadband Repair

Partners can usually run diagnostics on the broadband through the Giacom portal on a per-service basis, however, for BT 20CN and Vodafone partners will need to log a fault with the Giacom support team who will ensure that diagnostics are run. Partners must perform all first-line checks with the end-user to resolve any setup issues before reporting a fault. A Giacom guide is available to aid partners in performing these checks.

7.1 Engineer

Broadband Special Faults Investigation 2 (SFI2) or Super Fast Visit Assure (SFVA) for fibre-based services are available to partners as part of the fault journey. In both types of investigation, an engineer is booked to investigate broadband issues that have not been revealed through initial testing.

Giacom faults will determine if you require SFI2 or SFVA based on the end-user services and the terms will often be used interchangeably.

- > An SFI2 or SFVA may be offered as part of the Giacom fault process either where a fault has been identified which requires an engineer or after completing the diagnostics and repair activity passing tests whereby by no fault can be identified. We may refer to these as Right When Tested (RWT) or Fault Not Found (FNF).
- > SFI2 / SFVA is offered to check whether a line is working within the parameters established for its SIN requirements. These are established by Openreach under the following families:
 - > SIN 349 (ADSL based services)
 - > SIN 498 (FTTC/SOGEA)
 - > SIN 506 (FTTP)

- > As a result of this, an SFI2/ SFVA visit may conclude that there are no faults present if the line is found to be working within those parameters, regardless of whether a performance issue is present on the broadband element.
- > SFI2/SFVA requests start with an engineering visit to the End User's premises to check the Openreach Network from the Network Termination Point (NTP) and the Primary Point of Use by running a series of tests to help locate the area of any problem.
- > Given the intermittent nature of service affecting broadband problems, an SFI2 investigation is completed on a real time per occasion basis which concludes with an issue being identified and resolved or not. This means that, in the event of an SFI2 visit that concludes that there is 'no fault found' that visit would be chargeable regardless of whether on a subsequent visit a fault is then found. For further information and processes please refer to the broadband support guide.

8.0 Historical/ Legacy Product information

This section provides details of technical product information which may pertain to existing contracts with clients but does not affect new clients. It is included for reference and to provide additional understanding for legacy services.

8.1 Market A & B

Historically, the broadband infrastructure has had two defined areas which relate to market competitiveness:

- > **Market A** - approximately 1% of UK premises, whereby less than 2 providers offer broadband services.
- > **Market B** - Over 98% of UK premises are served by multiple broadband service providers. Allowing competitive pricing.

This is no longer the case and we now offer a single unified service across the market, providing multiple options for providers in all regions.

8.2 Fault Rate Threshold and Dynamic Line Management (DLM)

Legacy and WLR services utilise a Fault Rate Threshold per line to determine if there is a sustained fault. This threshold is tested and determined as part of the initial line setup and speed is not rate adaptive, and the line rate will achieve the stated value at an Ethernet level if there is an active service. There is no stabilisation period. Therefore, there is no Fault Threshold Rate associated with this product. Dynamic Line Management (DLM) is also not applicable to SO services" with "Dynamic Line Management (DLM) is not applicable on FTTP but does operate upon the copper portions of the line with SOGEA.

8.3 Unmetered Usage

Historically, we utilised both metered and unmetered broadband consumption. This is no longer the case and all new services are unmetered, however existing services may have a metered connection until their contract is renewed.

A Broadband connection with an 'Unmetered' usage policy allows customers to use as much data as they need to (within the parameters of the acceptable usage policy) all wrapped into the monthly rental charge for the product.

For Clarity

- > In instances where services exceed their capped data usage amount, we DO NOT automatically suspend or terminate those services. We recognise this could negatively impact a partner's reputation.
- > On monthly basis Giacom will highlight any users of the service who exceed this limit to our relevant partner who we would expect to investigate the excessive user because often this usage is a one-off as a result of a hardware or network configuration issue. If no issue is identified, we would work with the partner to identify a more suitable product. Only if this proved for whatever reason not to be achievable would we look to give 30 days' notice of termination of that specific connection.