

An eBook from  
**n-te** 

# CONNECTIVITY GUIDE

UNDERSTAND YOUR BUSINESS OPTIONS



## Introduction

The range of connectivity options and technologies now available to businesses can be confusing.

Even when choosing something relatively simple such as a broadband service you are faced with a multitude of questions. To help you get to grips with the various options available to your business we've produced this handy guide to connectivity.

It explains the technologies that are currently available from NTE, from standard business broadband right the way up to our Ethernet (Leased Line) product.

We'll look at each of their key features to help you choose the most suitable option for your business.

## Speed explained

Put simply, broadband speed outlines how fast data can come (download) and go (upload) through your connection.

Broadband is an **asymmetrical service**, which means it always has a higher download speed than upload speed. That's because most users are data consumers, streaming video, browsing the internet or downloading files. Dedicated connectivity such as GEA, EFM, GPON and Ethernet/Leased Lines provide the same speeds both up and down (**symmetrical bandwidth**) and are more suitable for businesses which upload or back-up data to off-site locations.

## How speed is measured

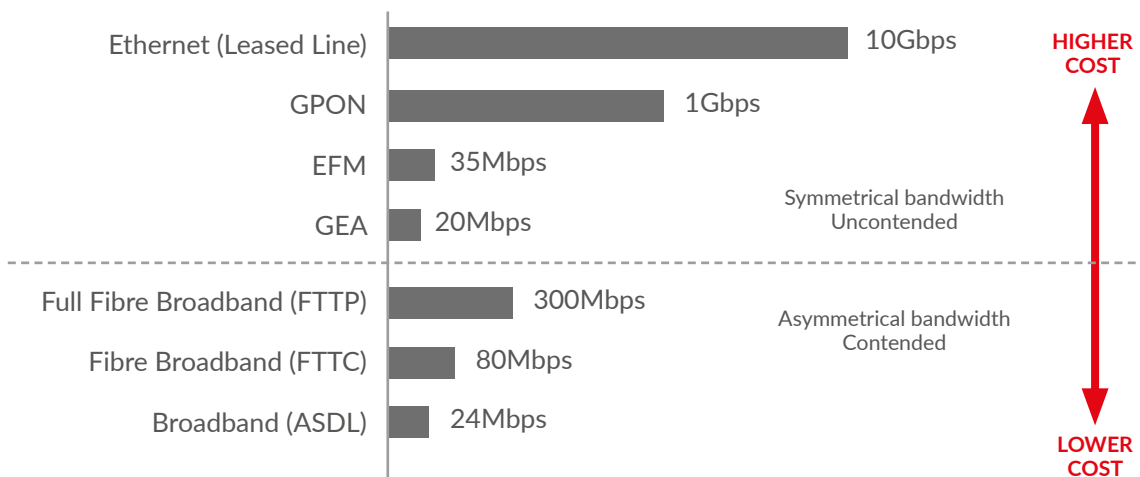
Speed is measured in **megabits per second (Mbps)**, and the higher the number of megabits you can download per second, the faster the connection. For example, an ADSL2+ Broadband at 16Mbps can download an HD movie in 12 minutes, with Fibre Broadband at 50Mbps you could download the same film in 1 minute 52 seconds. Dedicated one-to-one connectivity like Ethernet (Leased Line) connections can support speeds of up to 10,000 Mbps or 10Gbps which gives you an indication of the range of speeds available to businesses.

# Quick Comparisons

Speed, price, time to deliver and reliability (service guarantee) are key decision-making criteria when choosing a business connection. Before we look at each technology in turn it is helpful to understand where each connectivity product sits in relation to each of these criteria.

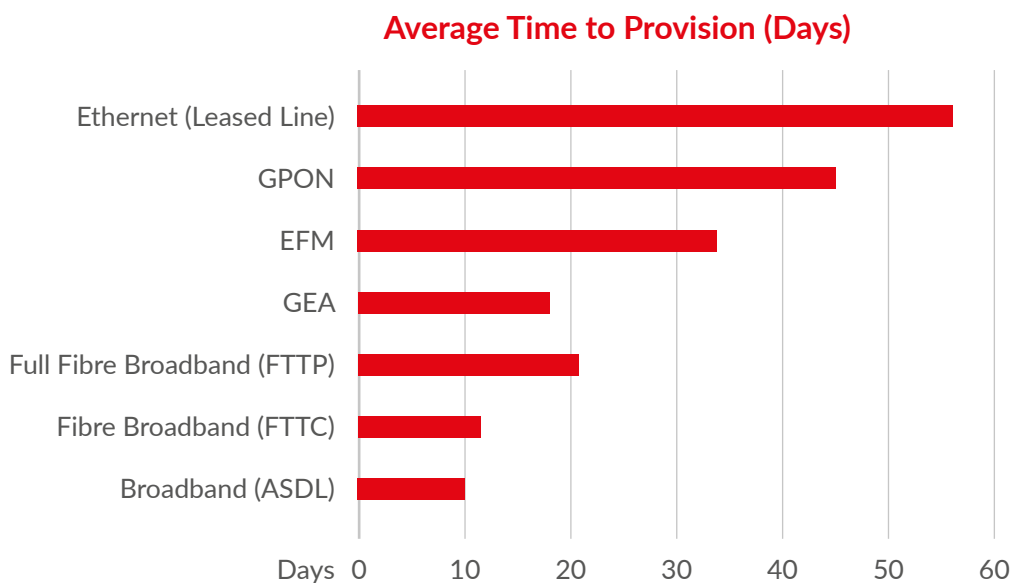
## Speed vs Price

This matrix demonstrates where each technology sits in terms of maximum speed and price.



## Speed vs Time to Provision

This matrix demonstrates where each technology sits in terms of time to provision.

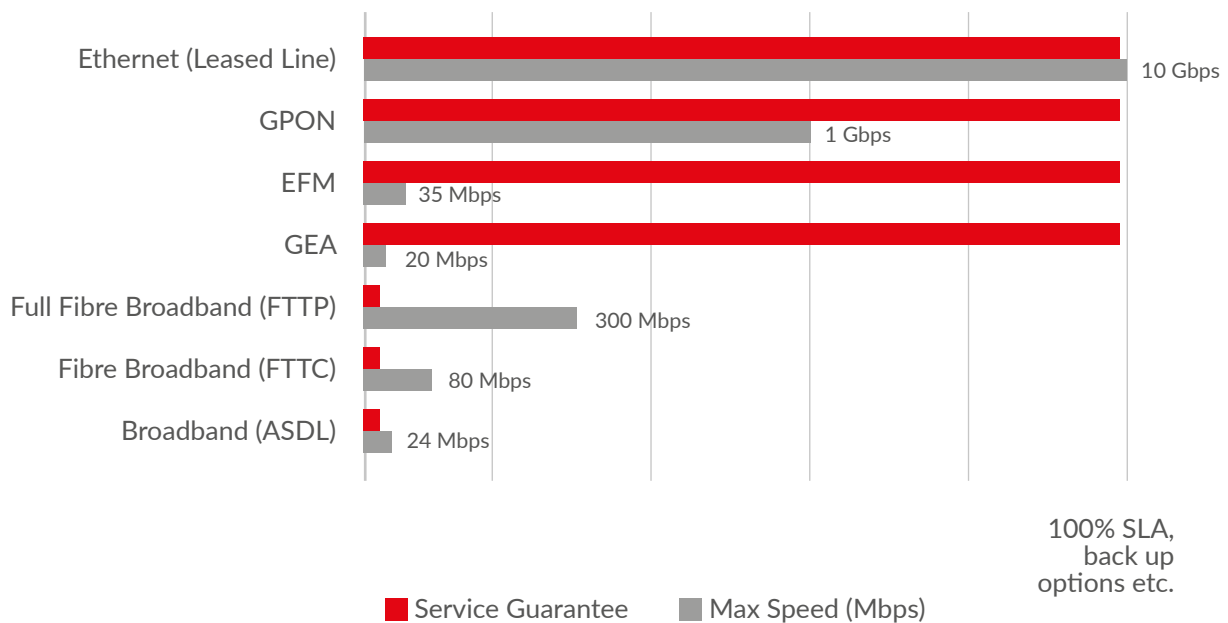


## Speed vs Service Guarantee

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This matrix demonstrates where each technology sits in terms of maximum speed and the service guarantees available. As the matrix shows, broadband provides little in the way of a guaranteed service. This is because broadband is a **contended service**, which means that your bandwidth may be 'shared' with other users and may impact your speed at busy times. By comparison, GEA, EFM, GPON and Ethernet-based solutions are uncontended (bandwidth is not shared) and therefore network providers are able to offer Service Level Agreements (SLAs) and guaranteed return-to-service timescales. If service guarantees are important to your business, you may want to look at an **uncontended service**.

Please see the product information detailed later in this e-book for more information about individual service levels and time to fix guarantees.



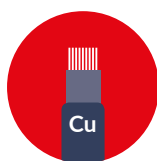
## Unlimited Business Broadband (ADSL2+)

Download speed	Up to 24 Mbps
Upload speed	Up to 1 Mbps
Ideal for	Email and internet browsing
Typical use	Small office and homemaker. Failover circuit.

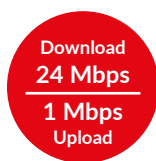
### At a glance



**Widely Available**



**Delivered over copper**



**Maximum Speed**



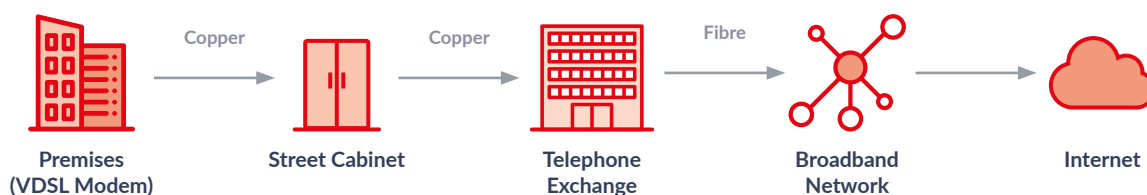
**Unlimited Download**



**Low Cost**

### How does it work?

Our standard Unlimited Business Broadband (ADSL2+) uses a copper telephone line to the nearest street cabinet and then copper connectivity to the nearest exchange where traffic is then delivered over the broadband network.



The maximum speed of this service is download 24Mbps and upload 1Mbps. However, the speed available at your premises will be dependent upon copper line conditions and your distance from the exchange. Before you buy we will advise you of the speed range available at your premises.

Low cost and quick to deploy, ADSL2+ is a **contended service**, which means that bandwidth may be shared with other users and may impact your speeds at busy times. Some businesses may not find this an issue, but if your internet connection is business critical you may wish to look at an **uncontended service** like **GEA**, **EFM**, **GPON** or **Ethernet (Leased Line)**, which provide service guarantees.

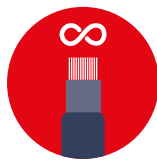
# Unlimited Fibre Broadband (FTTC)

Download speed	Up to 80 Mbps
Upload speed	Up to 20 Mbps
Ideal for	Email and Internet browsing, IP telephony services, video conferencing and uploading data.
Typical use	Small business. Failover circuit.

## At a glance



**Widely Available**



**Partial Fibre Delivery**



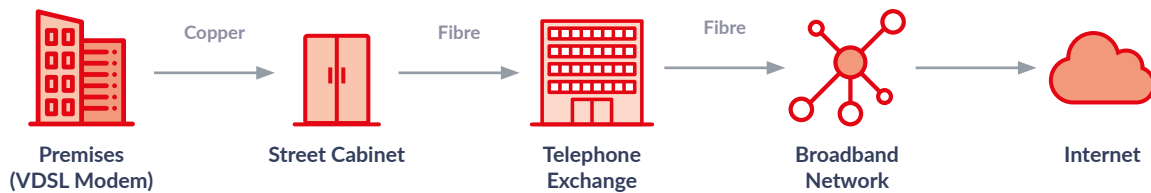
**Unlimited Download**



**Low Cost**

## How does it work?

Our Unlimited Fibre Broadband is also known as Fibre to the Cabinet (FTTC) and uses a copper telephone line to the nearest street cabinet and then fibre connectivity to the nearest exchange where traffic is then delivered over the broadband network.



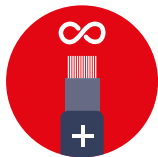
The use of fibre from the street cabinet to the premises provides a higher speed service with a maximum download of 80Mbps and upload 20Mbps. The speed available at your premises is dependent upon copper line conditions and your distance from the exchange. Before you buy we will advise you of the speed range available at your premises.

Relatively low cost and quick to deploy, Fibre Broadband is a **contended service**, which means that bandwidth may be shared with other users and may impact your speeds at busy times. Some businesses may not find this an issue, but if your internet connection is business critical you may wish to look at an **uncontended service** like **GEA, EFM, GPON or Ethernet (Leased Line)**, which provide service guarantees.

# Unlimited Full Fibre Broadband (FTTP)

Download speed	Up to 300 Mbps
Upload speed	Up to 20 Mbps
Ideal for	Email and Internet browsing, IP telephony services, video conferencing and uploading data.
Typical use	Small to Medium Enterprises (SME)

## At a glance



Delivered  
over Fibre



Unlimited  
Download



Low Cost

## How does it work?

Our Unlimited Full Fibre Broadband is also known as Fibre to the Premises (FTTP) and uses a fibre connection from your premises to the nearest street cabinet and then fibre connectivity to the nearest exchange where traffic is then delivered over the broadband network.



As a full fibre product, this service can deliver a step change in speed with a maximum download of 300Mbps and upload 20Mbps. Before you buy we will check what speeds may be available at your premises.

Full Fibre Broadband (FTTP) is not available in all areas, just ask NTE for a postcode check. It is a **contended service**, which means that bandwidth may be shared with other users, but with such a step change in speed it is unlikely that most businesses will find this an issue. If your internet connection is business critical you may wish to look at an **uncontended service** like **GEA, EFM, GPON or Ethernet (Leased Line)**, which provide service guarantees.

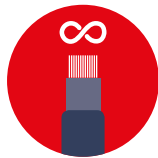
# GEA (Generic Ethernet Access)

Download speed	Up to 20 Mbps
Upload speed	Up to 20 Mbps
Ideal for	Email and Internet browsing, IP telephony services, video conferencing and uploading data.
Typical use	Small to Medium Enterprises (SME)

## At a glance



Widely Available



Partial Fibre Delivery



9 hour SLA

## How does it work?

**GEA (Generic Ethernet Access)** is like Fibre Broadband (FTTC) in that it uses existing copper infrastructure from the premises to the street cabinet and then fibre connectivity to the exchange. However, the significant difference is that GEA then delivers the traffic across the Ethernet network instead of the Broadband network. This explains why GEA is also known as **EoFTTC** or **Ethernet over Fibre to the Cabinet**.



This means that unlike broadband-based services, GEA can deliver an **uncontended service** (bandwidth is not shared with other users) with guarantees including a 99.95% uptime SLA, choice of backup options and a 9-hour return to service guarantee.

It provides **symmetrical** (same up and down) speeds of up to 20Mbps and benefits from shorter installation times compared to Ethernet/Leased Lines, due to the use of existing copper lines to your premises. Widely available in the UK, GEA uses the same availability footprint as fibre broadband.



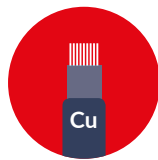
# Ethernet First Mile

Download speed	Up to 35 Mbps
Upload speed	Up to 35 Mbps
Ideal for	Locations where fibre is not available
Typical use	Small to Medium Enterprises (SME)

## At a glance



Widely Available



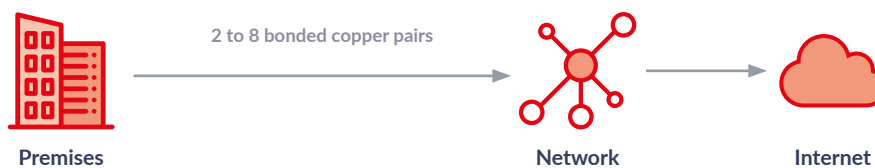
Delivered over copper



9 hour SLA

## How does it work?

**Ethernet in the First Mile (EFM)** uses between 2 and 8 copper pairs to deliver **symmetrical** (same up and down) speeds of between 2Mbps and 35Mbps to businesses within 4.8km of the serving exchange.

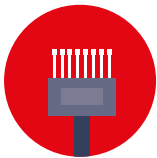


The use of multiple copper pairs provides additional resilience and the service is backed up with a 100% SLA, choice of backup options and a 9-hour return to service guarantee. Installation times can be as little as 35 working days. It is ideal for areas where fibre is not available.

# GPON (Gigabit Passive Optical Network)

Download speed	Choose from a 500 Mbps or 1 Gbps service
Upload speed	Choose from a 500 Mbps or 1 Gbps service
Ideal for	Email, browsing, IP telephony services, video conferencing, uploading data, backups and bandwidth hungry applications.
Typical use	Business critical internet access

## At a glance



Full Fibre



9 hour SLA

## How does it work?

**GPON** is a cost effective, high capacity, **symmetrical (same speed up and down)** full fibre connection into your premises.

The service is provided by splitting one high capacity ethernet connection and continuing the pure fibre connection to no more than 8 business customers (contention protected).

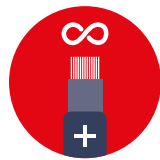


With maximum speeds of 500Mbps or 1Gbps depending on your choice of service, 100% SLA guarantee and a 9-hour repair guarantee, GPON provides blisteringly fast internet access and is rapidly rolling out to UK city networks. We can check your postcode for availability.

## Ethernet (Leased Line)

Download speed	Choose from 10 Mbps to 10 Gbps
Upload speed	Choose from 10 Mbps to 10 Gbps
Ideal for	Email, browsing, IP telephony services, video conferencing, uploading data, backups, bandwidth hungry applications and multi-site networks.
Typical use	Business critical internet access

### At a glance



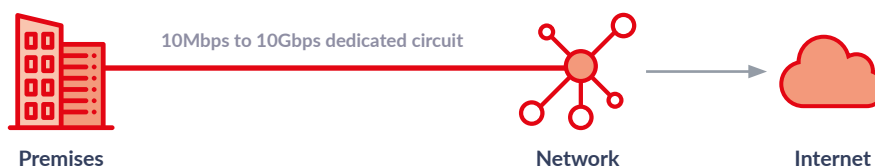
Full Fibre



6 hour SLA

### How does it work?

A totally **dedicated 1-to-1** Ethernet (fibre) connection from your premises to the core network. An Ethernet (Leased Line) is a high performance, secure, always-on connection with the highest speeds available on the market, ranging from 10Mbps up to 10Gbps.



The solution is also scalable, meaning you can flex your contract up and down to manage business growth. With a 99.95% uptime guarantee, 6-hour fix and choice of failover options, Ethernet offers the highest performing and most resilient internet access on the market.

Widely available, Ethernet deployment is subject to survey and can take more than 57 working days to install. Our dedicated delivery team will manage every aspect of your installation for you. For more information just give our experts a call.

# A simple comparison

	Business Broadband	Fibre Broadband	Full Fibre Broadband	GEA	EFM	GPON	Ethernet
Alternative Name	ADSL2+	Fibre to the Cabinet (FTTC)	Fibre to the Premises (FTTP)	Generic Ethernet. Access or Ethernet over Fibre to the Cabinet (EoFTTC)	Ethernet First Mile	Gigabit Passive Optical Network	Leased Line
Download	Up to 24 Mbps	Up to 80 Mbps	Up to 300 Mbps	Up to 20 Mbps	Up to 35 Mbps	Choose from a 500Mbps or 1Gbps service	From 10 Mbps to 10 Gbps
Upload	Up to 1 Mbps	Up to 20 Mbps	Up to 20 Mbps	Up to 20 Mbps	Up to 35 Mbps	Choose from a 500Mbps or 1Gbps service	From 10 Mbps to 10 Gbps
Typical use	Email and internet browsing	Email and internet browsing, IP telephony services, video conferencing and uploading data.	Email and internet browsing, IP telephony services, video conferencing and uploading data.	Email and internet browsing, IP telephony services, video conferencing and uploading data.	Locations where fibre is not available	Email, browsing, IP telephony services, video conferencing, uploading data, backups and bandwidth hungry applications.	Email, browsing, IP telephony services, video conferencing, uploading data, backups, bandwidth hungry applications and multi-site networks.
Ideal for	Small office and homemaker. Failover circuit.	Small business. Failover circuit.	Small to Medium Enterprises (SME)	Small to Medium Enterprises (SME)	Small to Medium Enterprises (SME)	Business critical internet access	Business critical internet access
Widely available	✓	✓	✗	✓	✓	No	✓
Average installation time (in working days)	10	11	15	18	35	45	57
Service delivered over	Copper	Partial Fibre	Fibre	Partial Fibre	Copper	Ethernet	Ethernet
Symmetrical service (same speed up and down)	✗	✗	✗	✓	✓	✓	✓
Uncontended (bandwidth not shared)	✗	✗	✗	✓	✓	Contention protected	✓
Service guarantee	✗	✗	✗	✓	✓	✓	✓
Target fix time	✗	✗	✗	9 hours	9 hours	9 hours	6 hours
Subject to site survey	✗	✗	✗	✗	✓	✓	✓

# Which connectivity is right for my business?

The answer depends on the balance between how essential connectivity is to your business, how quickly the connection is needed and your budget.

## Helpful questions to ask your business

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- What will you use the connection for?
- How many simultaneous users will you have on each connection?
- Will you use it to access and share hosted applications?
- Do you need to upload large files or back-up off site?
- What would the impact on your business be if you were to lose connectivity for one hour, 24 hours or even a few days?
- Do you need a temporary failover or a back-up service?
- What's your timescale for delivery?
- What's your budget?

## How we help

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Our experts are on hand to help you choose the right connectivity for your business. They will take the time to understand your usage, check availability and speeds at your premises and guide you through pricing and those all-important service levels. Once you have the information to hand you can make the right decision for your business.

## For more information and advice

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