

# Commonly used Broadband Jargon.

## Access network

The part of the network that connects customers to the exchange, sometimes called the local loop or the last mile.

## Activation

When your local telephone exchange switches over your phone line so you can receive data as well as phone calls.

## ADSL

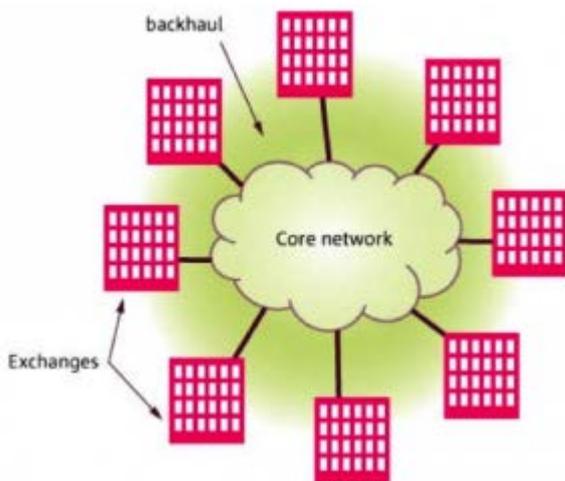
Asymmetric Digital Subscriber Line: Broadband delivered down your telephone line through copper wires. It works quite well – with speeds of up to 20 Mbps download and 3 Mbps upload – if you are near your telephone exchange, but can be 'flaky' further away.

## Asymmetric

When upload and download speeds are different. Upload is much slower than download in ADSL and FTTC broadband.

## Backhaul

The middle part of the network that links your local exchange to the core network.



## Bandwidth

The speed at which data travels to and from your computer.

Measured in Mbp/s (megabits per second) or Kbps (kilobits per second). Just as a wider water pipe will deliver more water, more quickly, broader bandwidth delivers more data, more quickly.

## BDUK

Broadband Delivery UK is the delivery vehicle for the Government's policies on broadband. It is currently based within the offices of the Department for Culture, Media and Sport London.

## BET

BET (Broadband Enabling Technology) is BT's way of enhancing copper wires so that they can deliver speeds of up to 2Mbps up to 12km from the exchange. BET is a Single-pair High-speed Digital Subscriber Line (SHDSL) technology, which is a cousin of the more familiar Symmetric DSL (SDSL, same speed both ways) service for businesses. SHDSL combines elements from ADSL to work using frequencies that are not as prone to deterioration over distance. But it's not cheap: it costs around £1000 per premises.

## Broadband

Internet connection that is faster than 2 Mbps (according to the Digital Britain report), although BT considers that broadband is viable at 128 Kbps.

## Broadband champion

The lifeblood of the campaign! Broadband champions are parish representatives working to spearhead the campaign within their parish by helping to stimulate demand, organising local events and in some cases helping to build local access networks.

## Cabinet

A green box that you might see on a street corner in a town or city that connects telephone lines to the exchange. Also known as a primary connection point.

## Cable Broadband

This is broadband delivered over the cable TV network. The system which is used, or 'the protocol', is called DOCSIS. The current version, 1.0, offers speeds up to 38Mbps. A newer version, 3.0, could offer up to 120Mbps and higher. Unlike ADSL or FTTC, the speed you get is not dependent on the distance you are from the exchange and every person can receive the same speed. The network is a mixture of fibre and copper cable, with the majority being fibre. Only the very last part is copper.

## CLEO

Cumbria and Lancashire Education Online: Superfast broadband network for all education establishments and libraries across Cumbria and Lancashire that supports: 1. the use of broadband technology in the classroom, 2. teachers in their work when on school property.

CLEO has provided Cumbria and Lancashire with the best connectivity for education in the entire country. Each school pays a levy per child per year for the service. CLEO is part of the National Education Network (NEN). See [www.cleo.net.uk](http://www.cleo.net.uk)

## CIC

A Community Interest Company (CIC) is a type of limited company created for people who want to conduct a business or other activity for community benefit, and not purely for private advantage. Some existing community broadband initiatives are set up as CICs.

## Contention ratio

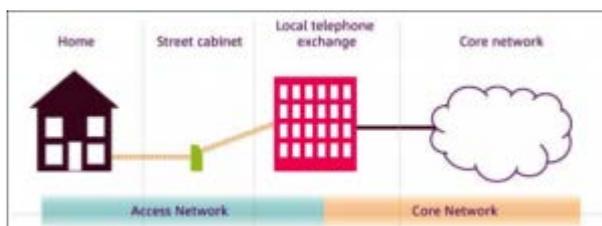
The number of people who share a broadband connection. A contention ratio of 50:1 means that you may be sharing your broadband connection with up to 49 other people. Imagine a rush-hour train with only two carriages. Some passengers may have to stand. With four carriages there is a lower contention ratio – everyone gets a seat and travels in comfort. Some people pay more for a lower contention ratio so their broadband is faster. Some internet service providers put up to 400 people on one connection to keep costs low.

## Core network

The backbone of the communications network, carrying voice and data services around the country.

## Current generation

The system we have at present. Existing access networks use old, copper telephone lines, so that the further you are from an exchange, the slower your broadband is – if you get broadband at all. In rural areas, this can be a very great distance indeed.



## Dark fibre

fibre optic cable which has been laid, but isn't yet being used. Also called unlit fibre.

## DCLG

Department for Communities and Local Government. Eric Pickles MP is the Secretary of State for this department. DCLG is the department in charge of the Big Society agenda. See [www.communities.gov.uk](http://www.communities.gov.uk)

## DCMS

Department for Culture, Media and Sport. Jeremy Hunt MP is the Secretary of State for the department and has taken the lead on broadband policy. His junior minister, Ed Vaizey, the minister for culture, communications and creative industries, is a joint minister in BIS (where the civil servants who deal with broadband policy – BDUK – are based). See [www.culture.gov.uk](http://www.culture.gov.uk)

## Dial-up

Using a modem to access the internet. This is not broadband. Dial-up can only supply speeds up to 56Kbps, and you can't use the same phone line for voice calls.

## **Digital Britain**

Report on the digital economy published by the previous Government in 2009. See the Resources page.

## **Digital Poverty**

Lack of the technology needed to get the best out of internet services. People in areas of digital poverty cannot, for example: fill in important forms and registrations, shop online, download videos and music, see and speak to other people on the internet, run their business, or engage in social media.

## **Digital village Hub or Community broadband hub.**

A box installed in a central place within the community, also called a digital parish pump or community broadband hub. Fibre optic cable comes into the box, then broadband is distributed to local homes and businesses by various means (see last-mile solution) . The fibre is known as a fat pipe, because whatever is needed in the future can come down it, from a megabit to 10 gigabits.

## **DOCSIS 3.0**

Data Over Cable Service Interface Specification: the international standards for sending data over a cable network. This is the standard that VirginMedia use.

## **Download speeds**

How long it takes in Mbps {Megabits} or Kbps {Kilobits}) for you to receive data from another computer.

## **DP**

Distribution point: the point near to a premises where the main cable from a PCP is split to provide service at one or more localised premises. A DP can be at the top of a telegraph pole (Overhead DP), under a walkway (Underground DP) or on the side of a building.

## **Ducts**

Existing underground pipes that hold copper or fibre cables.

## **ERDF**

The European Regional Development Fund is aimed at economic regeneration projects promoted primarily by the public sector. This involves:

- government departments
- local enterprise partnerships
- local authorities
- further and higher education establishments
- other public bodies
- volunteer sector organisations

ERDF grants can also be used in certain circumstances to help to develop small and medium-sized enterprises. In some programmes private sector companies may also apply. See details for each specific programme below.

ERDF helps projects which offer substantial benefits to the programme area and its communities. These projects would not take place without a grant. The rest of the funding, known as 'match funding', comes from other sources such as local authorities, government schemes, other public bodies and the private sector.

## **Ethernet**

A technology that allows computers on a network to talk to each other.

## **Exchange**

A building that houses electronic equipment to connect telephone calls. Backhaul ends here and the access network begins.

## **Faceplate**

This is the front cover of the BT socket into your house. Removing it, and plugging your router directly into the engineer socket behind the faceplate can reduce interference on your line and often increase the speed and consistency of your broadband connection.

## **Fat pipes**

Bundles of fibre optic cable laid underground, underwater, or overhead.

## **Fibre**

Optical fibres are thin, flexible, hair-sized fibres that transmit data in the form of light signals. They can be bundled together, often encased in cable similar to an ordinary computer cable, and can transmit data millions of times faster and more reliably than metal wires.

### Fibre tax

The UK government taxes telecoms properties, such as exchanges, ducts, poles and masts. The UK is the only country in the EU that taxes fibre, and this tax is stifling innovation and investment. Other countries have waived the fibre tax (also called business rate) entirely to encourage next generation networks. There is a growing campaign for this waiver to occur in the UK.

Business rates are set by the VOA (Valuation Office Agency) an agency of the Treasury. Currently business rates on fibre are calculated on a sliding scale so that it is more costly for smaller installations. But local authorities have the power to waive fibre tax if the fibre is lit by a Community Interest Company (CIC) or a charity.

### Final third

A term coined in the 2009 Digital Britain report to refer to the estimated third of the population who could not get next generation access 'unaided' – i.e. without a government subsidy. The lobby group Final Third First is campaigning to meet the needs of these people as soon as possible and bring their broadband services in line with the rest of the population.

### Firewall

Security that prevents other computer users accessing your computer.

### Fi-Wi

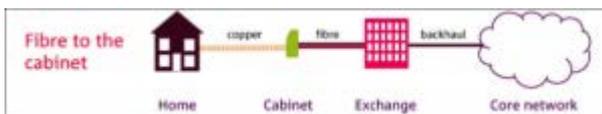
Bringing fibre as close as possible to the property and then completing the connection with wireless.

### FiWiPie

Term coined by 5th author Lindsey Annison, describing a mixed solution to delivering broadband connections, dividing the broadband "pie" between wireless and fibre depending on location.

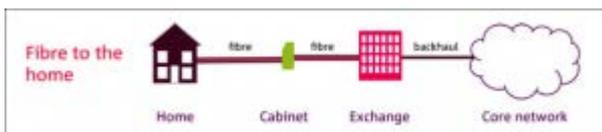
### FTTC

Fibre to the cabinet. This is a possible model for broadband delivery in which the final portion of the access network, from the cabinet to the home, continues to use your existing copper line. 'Up to' 40 Mbps is possible, but not likely. You have to be within 300 metres of the cabinet for it to work. You also have to have a good line to the cabinet.



### FTTH / FTTP

Fibre to the home or fibre to the premises. This is true next generation access where the fibre connection reaches the home or business. There are no bottlenecks to stop the flow of data. Data is symmetrical, with the same upload speed as download speed. Sometimes called fibre to the pole/post.



### Hotspot

A place that has fast reliable broadband all the time. Sometimes also used as a term for a wifi connection in a community or cybercafe, for example Starbucks has a wifi hotspots.

### Hyperconnectivity

Hyperconnectivity is a trend in computer networking in which all things that can or should communicate through the network will communicate through the network. This encompasses person-to-person, person-to-machine and machine-to-machine communication. The trend is fueling large increases in bandwidth demand and changes in communications because of the complexity, diversity and integration of new applications and devices using the network.

### ISDN

Integrated Services Digital Network: An Internet service that is faster than dial-up but slower than broadband, with speeds around 128 Kbps. You need two telephone lines to use this service.

### ISP

Internet service provider: the company that supplies your broadband. Also known as an SP – Service Provider

### Kbp/s

Kilobits per second, a measure of the rate of data transfer. 1,000 Kbps = 1Mbps.

**Last-mile solution**

How broadband from the digital village pump reaches your property (see access network). It will not be the same for everyone – it could be overhead cable, underground fibre optic cable or wireless. We like to call it the 'first mile' because we believe the network starts with the customer, not the supplier. The 'last mile' is a figure of speech, not a specific distance.

**Latency**

A delay in processing the flow of data. You can see the effects when a TV reporter is speaking from abroad on a satellite connection – their lips are moving but their words haven't caught up.

**LLU**

Local loop unbundling is the process by which BT makes the access network (also known as the local loop) available to rent to other internet service providers so that they can run their service to customers. The competitor installs their own equipment in BT's exchanges and establish a backhaul connection between the equipment and its core network.

**LAN**

Local Access (or Area) Network – A computer network that connects computers and devices in a limited geographical area such as home, school, computer laboratory or office building. The defining characteristics of LANs, in contrast to wide area networks (WANs), include their usually higher data-transfer rates, smaller geographic area, and lack of a need for leased telecommunication lines.

**Mast**

Masts are powerful radio transmitters and receivers which allow mobile phones and computers to connect to the internet or mobile phone networks.

**Mbp/s**

Megabits per second, a measure of the rate of data transfer. 1Mbps = 1,000 Kbps. 1Mbps is about 20 times faster than a standard 56 Kbps dial-up Modem.

**Meg**

A short way of saying Megabits in conversation, not usually written down.

**Microwave**

A long-distance wireless link, with antennae usually sited on chimneys or masts.

**Mobile broadband**

This is broadband through your mobile phone or a dongle (a device that plugs into your computer) or mifi (your mobile phone or computer connects to it through wireless). Currently, it is very slow and has very limited coverage in rural areas. Even in urban areas, people are finding it increasingly hard to connect as the network becomes overloaded due to high demand from the many people using smart phones, like Blackberries and iPhones, to access the internet. The signal comes from masts, but many masts are fed by microwave. If fibre were brought to all masts, they could transmit more data at higher speeds.

**Modem**

The box that connects your computer to the phone line if you are still using dial-up.

**NGA (Next Generation Access)**

The future of broadband: an upgrade of the access network that will mean a huge improvement in broadband speeds and quality of service. It can use a number of technologies: cable, fixed wireless, mobile or fibre, but normally refers to replacing the copper lines with fibre optic cable. True NGA is fibre all the way to your home or business, called FTTH.

**Node**

A small antenna fixed to a structure that picks up signals from neighbouring structures to move wireless broadband from one place to another

**Notspot**

A place where there is no broadband service at all.

**OCP (Originating Communications Provider)**

Also known as 'Originating Network', the OCP is a phone network that sends you your phone bill and connects your call from your phone through to its destination (the number you have dialled).

**Ofcom**

The Office of Communications. Ofcom is the communications regulator. It regulates TV, radio, telecoms, mobiles and spectrum. See [www.ofcom.org.uk](http://www.ofcom.org.uk)

## Outage

When a service breaks down and the ISP cannot supply broadband.

## PIA (Physical Infrastructure Access)

Remedy to allow OCPs to deploy fibre in the access network using BT's ducts and poles – either to support deployment of FTTH technology, or to support deployment of FTTC technology (by enabling a backhaul connection between street cabinets and the OCP's network). BT will publish a draft reference offer ("RO") for duct access in January 2011.

## Poles

Timber poles used to carry overhead power lines, copper wires or fibre. They are owned by BT and the power companies like Electricity North West. The government is pushing BT to let competitors string fibre along its poles. Ofcom will decide how it's done. Also known as DP (distribution point).

## PCP

Primary connection point: A green box, that you might see on a street corner in a city, that connects telephone lines to the exchange. Also called a cabinet.

## Router

The box that connects your computer to the internet and pushes broadband out to other computers in your building. Often installed with firewall protection. Also called a gateway.

## Satellite

A broadband satellite uses a home radio link (transponder) and a dish to bounce a signal off a satellite and down to an earth station. A one-way satellite connection uses a satellite link to download data to the broadband user and telephone connection to upload data back to the internet. A two-way satellite connection uses the satellite link to both download and upload data.

## SLA

Service Level Agreement, a contract between provider and customer.

## Spectrum

The airwaves over which radio devices operate.

## Spectrum release

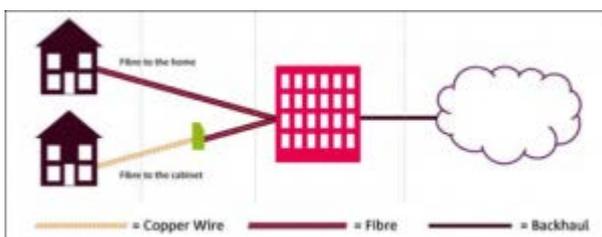
Freeing up unused bands in the spectrum so that more people can use mobile broadband without interference or loss of signal because the network is overloaded.

## Splitter

A small box that plugs into your phone socket and 'splits' your line into two bands – one for telephone and another for broadband use. A splitter helps to reduce interference on the line when you use broadband and the phone at the same time. Also called a microfilter. You need one on every phone socket you use in your property.

## Superfast broadband

Broadband services faster than 100 Mbps delivered through fibre optic cable.



## Symmetry

Where upload speeds are the same as download speeds. True Next Generation Access will be symmetric. Video conferencing requires symmetric upload and download speeds. Current broadband is asymmetric.

## Throughput

The average rate of successful message delivery over a communication channel.

## USC

Universal Service Commitment: Labour Government commitment to provide every home and business in the UK with at least 2Mbps broadband by 2015.

**Up to...**

When an Internet Service Provider agrees to supply 'up to' x Mbps of broadband, it does not always mean they will reach this target. Find out what's possible for your property before you sign up (and maybe pay more) for higher levels of service. If you check with a reputable Internet Service Provider they will do a thorough test, cheaper Internet Service Providers won't.

**Upload speeds**

How long it takes (in Mbps or Kbps) the data you send to reach another computer. Next Generation Access connections can be symmetrical, although, to cut costs, some Internet Service Providers may not offer symmetry.

**VDSL**

Very-high-bitrate Digital Subscriber Line is a DSL technology that offers speeds of up to 52Mbps downstream and 16Mbps upstream over a single flat untwisted or twisted pair of copper wires.

**VOA**

The VOA is an executive agency of Her Majesty's Revenue and Customs. It is responsible for business rates, council tax, valuations for Inheritance tax, and Capital Gains Tax.

**VoIP**

Voice over Internet Protocol: using the internet as a telephone, for example, with Skype.

**Wayleave**

A wayleave is a contractual agreement between a landowner and a utility provider which allows the provider to install plant and equipment on private land and have access rights to maintain and repair it.

**WAN**

Wide area network - a computer network that covers a broad area (i.e. any network whose communications links cross metropolitan, regional, or national boundaries).

**WiMAX**

Worldwide Interoperability for Microwave Access: it is based on the IEEE 802.16 standard, also known as WirelessMAN. It is often referred to as WiFi on steroids, because of its ability to provide wireless data over much longer distances than WiFi.

It is possible for WiMAX to deliver speeds of up to 70Mbps and operate over distances of up to 50km, although not concurrently. Once Cumbria has good fixed-line infrastructure (fibre to the majority of homes and businesses), WiMAX will act as a filler.

**Wireless/WiFi**

Short-range wireless technology allows wireless devices to transmit data between each other, or to a base station. WiFi networks supply a connection where there are no wires handy or wires would be a nuisance. Many homes have their own WiFi from their routers. This means that you can use a laptop or smart phone wherever you are in the house without putting a wire into the machine. Some WiFi networks span whole villages and remote properties.

**Wireless hotspot**

A public place where you can access the internet using your laptop or smart phone using a wifi connection. Sometimes offered as a free service, sometimes you have to pay.