

# Utility Jargon Buster - Telecoms

V1 – OCTOBER 2019

## Connections

- 👉 **Telecommunication** - Exchange of information via electronic means using electro-magnetic energy. This includes landline phones, mobile phones, radio, television, fax and the internet.
- 👉 **Core network** - *Telephone exchanges* are interlinked by *fibre optic* cabling which spans the country.
- 👉 **Local/access networks** - Comprised of copper and increasingly fibre cables. Connecting homes to the local *telephone exchange*.
- 👉 **Fibre Optic (FO)** – A glass core wire that allows digital data to travel through as light.
- 👉 **Telephone Exchange** – Switching stations between the ISP hubs and consumer homes. A mix of fibre and copper cabling is used to transfer telephone calls and connect premises to the internet.
- 👉 **Internet Protocol (IP)** - The online network address for every device connected to the internet.
- 👉 **Internet Protocol television (IPTV)** - Delivers TV using the same protocol as the internet. It allows for constant streaming of the content, e.g BT TV.
- 👉 **Voice over internet-protocol (VOIP)** – Phone services that use the internet to make calls, rather than the traditional wired telephone methods.
- 👉 **Community Access Television (CATV)** – (Commonly known as Cable TV) The cabling system used for television systems. It receives the television broadcast via the antenna and then the subscriber views the content through a TV cable.
- 👉 **Internet Service Provider (ISP)** - Private companies which provide broadband fibre packages, however they are delivered over the contested Openreach network, e.g: TalkTalk and Plusnet. ISP's can also provide uncontested connections direct from the *exchange*, usually for business customers e.g: Vodafone.
- 👉 **Telecoms Service Provider (TSP)** - Private companies which provide telecommunication packages, eg: BT.
- 👉 **Virtual Private Network (VPN)** – A programme that can be used on insecure networks. This is done by creating a safe and encrypted connection over the network.
- 👉 **Optical Network Termination (ONT)** – Replaces the traditional copper master socket. The Openreach ONT sits in an enclosure along with the *Battery Backup Unit (BBU)* and *Termination Point (TP)*, transferring electronic signals to the *router*.
- 👉 **Battery Backup Unit (BBU)** – If the power supply fails the BBU will provide internet and emergency phone services for a period of time.
- 👉 **Termination Point (TP)** – Located on the customers premise and is the last point for the commercial carrier, e.g: Virgin Media.
- 👉 **Router** – A device issued by the internet service provider and is the central point for splitting networks. It is where the *WiFi* is broadcasted and where hardwiring devices that direct consumers to the internet are connected.
- 👉 **Self Connectorised Cable** – The fibre link between the *ONT* and internal *router*. It can be installed by either developer or Openreach.



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- 👉 **Wireless Fidelity (WiFi)** – A wireless system that allows devices like smartphones and laptops to connect to the internet.
- 👉 **NODE** – A connection point that can either create, receive, send or store information along a network route.
- 👉 **Back haul** – The fibre lines that normally run from the cabinet (*core network*) to the *exchange* (subnetworks).
- 👉 **Joint Box** – They are used to protect connections and provide access to the electrical circuits.
- 👉 **Integrated Reception System (IRS)** – Provides different types of broadcasting signals (FM radio & satellite TV) to multiple outlets by receiving signals from a single aerial cluster or signal booster-distributor.
- 👉 **Fibre Integrated Reception System (FIRS)** – An upgrade from an *IRS* system as it uses the fibre network; making it more optimized. It provides end user with a combination of broadcasting signals (e.g: Sky & Freeview) and is a communal system.
- 👉 **Fibre To The Premise (FTTP)** – A fibre connection from the *telephone exchange* into your business/premise directly.
- 👉 **Fibre To The Cabinet (FTTC)** – Both fibre and copper cabling. The fibre cable runs into the street cabinet from the *exchange*, and the copper cables connect the cabinet to the home.
- 👉 **Fibre To The Node or Neighborhood (FTTN)** - Both fibre and copper cabling. The fibre cable runs into the *Node* or *junction box*, and the copper cables connect the *node* to the homes. FTTN normally serves a few hundred customers.
- 👉 **CAT5** – An ethernet or a network cable. CAT5/CAT5e has a maximum frequency of 100MHz.
- 👉 **CAT6** – A building backbone cable that supports CAT6 and CAT5 applications. It has a maximum attenuation frequency of 250MHz.
- 👉 **CAT7** – A gigabit ethernet cable. It has a maximum frequency of 1000MHz.
- 👉 **Megabit per second (Mbit/s)** - Unit of measurement that equals 1,000 kilobits per second.
- 👉 **Gigabit per second (Gbit/s)** - Unit of measurement which equals 1,000,000 kilobits per second.
- 👉 **Terabit per second (Tbit/s)** - Unit of measurement equals 1,000,000,000 kilobits per second.
- 👉 **Hertz (Hz)** – A unit of frequency that is defined as 'one cycle per second'.

## Mobile Network

- 👉 **Mobile phones** – A portable device that uses radio signals to make phone calls rather than a wire. They can be used anywhere as long as it has a signal.
- 👉 **Mobile Broadband** – Also known as Mobile Data, it connects through a mobile network and sends data signals through the 3G, 4G and 5G network.
- 👉 **Cell Towers** – Permanent tower sites that contain signal antennae's that transmit and receive *RF* frequencies which *Mobile phones* detect.



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- 👉 **Radio Frequency (RF)** – Electromagnetic radio waves that are used for communication and broadcasting. It ranges from 3 kHz to 300 GHz.
- 👉 **High Frequency Interconnectors** – Microwave dishes that wirelessly link *cell towers* that are not connected to the network (towers in rural areas).
- 👉 **1G** – The first wireless mobile telecommunication technology that used analogue signals to make calls.
- 👉 **2G** – This is also known as SMS and MMS. 2G allowed *mobile phones* to send text messages and images to one another.
- 👉 **3G** – Short for ‘third generation’ as it is the third wireless mobile telecommunication technology that allows you to make calls and access the internet.
- 👉 **4G** – Short for ‘fourth generation’ as it is the fourth wireless mobile telecommunication technology that allows you to make calls and access the internet. 4G connects to the internet faster than 3G.
- 👉 **5G** – Short for ‘fifth generation’ as it is the fifth wireless mobile telecommunication technology that allows you to make calls and access the internet. 5G connects to the internet faster than the previous generations.
- 👉 **British Telecommunications Act 1981** - Took responsibility for telecommunications away from the Post Office and created British Telecom. <https://www.legislation.gov.uk/contents/1981>
- 👉 **Telecommunications Act 1984** - Privatised BT. <https://www.legislation.gov.uk/content/1984>
- 👉 **The Communications Act 2003** – Created *OFCOM* by merging previous regulatory bodies. The act also abolished the need for telecommunications operators to hold a licence in order to provide fixed (non-mobile) telecommunications services. Instead, a self-certification scheme was introduced, whereby operators ensure they comply with a set of general conditions in order to be allowed to do business. <http://www.legislation.gov.uk/pdf/03>
- 👉 **OFCOM** – The government regulator for the telecoms industry in the UK, which includes home phone, mobile services and broadband. They also oversee the Postal Service/Royal Mail. <https://www.ofcom.org.uk/home>
- 👉 **Internet Service Providers Association (ISPA)** – Trade association for internet service providers in the UK. They work to create a better online environment by promoting competition and development. <https://www.ispa.org.uk/>
- 👉 **UK Competitive Telecoms Association (UKCTA)** – Trade association of large fixed *telecoms companies*. They work in the communication market and strive to make the market more competitive and innovated. <http://www.ukcta.org.uk/>
- 👉 **Institute of Telecommunications Professionals (ITP)** – Independent institution for people who work in telecommunications. They have thousands of members exceeding 50 organisations across the globe. <https://www.theitp.org/>

## Other

- 👉 **Telecoms Companies** – This encompasses Openreach and the other telecommunication service providers. They oversee the national network and its development.