Glossary

Access Network

That part of a communications network which connects subscribers to their immediate service provider. It is contrasted with the core network.

Active Optical Network

A network in which the passive splitting point is replaced with an Optical Line Distribution unit which is a powered unit making it possible to have a higher bit rate on individual routes over longer distances than on a passive optical network.

Backhaul

The backhaul portion of the network comprises the intermediate links between the core, or backbone, of the network and the small sub networks at the "edge" of the entire hierarchical network. For example, while cell phones communicating with a single cell tower constitute a local sub network, the connection between the cell tower and the rest of the world begins with a backhaul link to the core of the telephone company's network (via a point of presence).

Bandwidth

The capacity for a given system to transfer data over a connection. It is measured as a bit rate expressed in bits/s or multiples of it (kb/s Mb/s etc.).

Bit

In computing and telecommunications, a 'bit' is a basic unit of information storage and communication; it is derived from a contraction of the term '**b**inary dig**it**'.

BitTorrent

A peer-to-peer (P2P) file sharing protocol designed to reduce the bandwidth required to transfer files. It does this by distributing file transfers across multiple systems, thereby lessening the average bandwidth used by each computer. For example, if a user begins downloading a movie file, the BitTorrent system will locate multiple computers with the same file and begin downloading the file from several computers at once. Since most ISPs offer much faster download speeds than upload speeds, downloading from multiple computers can significantly increase the file transfer rate.

Blackspot

An under-served premises, or area, which is unable to obtain a metro-comparable broadband service.

Brownfield

Abandoned or under-used industrial and commercial facilities where expansion or redevelopment is complicated by real or perceived environmental contaminations.

Byte

In computing and telecommunications, a byte is a unit of digital information; it is an ordered collection of bits, in which each bit denotes a binary value of 1 or 0. One byte is equal to 8 bits.

Coaxial Cable

An electrical cable consisting of an inner conductor surrounded by an insulating spacer, surrounded by an outer cylindrical conductor. It provides protection of signals from external electromagnetic interference and effectively guides signals from external electromagnetic interference and effectively guides signals.

Core Network

The central part of a telecom network that provides various services to customers who are connected by the access network.

Customer Service Guarantee (CSG)

A performance standard created by the Australian Communications and Media Authority (ACMA). This standard provides financial compensation, of a prescribed amount, to customers who are affected by delays in service connections and fault repairs. It also covers missed appointments. However, some exemptions apply.

Dark Fibre (also unlit fibre)

Unused fibres, available for use. The term was originally used when talking about the potential network capacity of telecommunication infrastructure, but now also refers to the increasingly common practice of leasing fibre optic cables from a network service provider.

Demarcation Point

The point at which the telephone company network ends and connects with the wiring at the customer premises. A demarcation point is also referred to as the demark, DMARC, MPOE, or minimum point of entry.

Digital Loop Carrier (Remote Integrated Multiplexer - RIM)

A system which uses digital transmission to extend the range of the local loop farther than would be possible using only twisted pair copper wires. A DLC digitizes and multiplexes the individual signals carried by the local loops onto a single data stream on the DLC segment.

Firewall

Is a dedicated appliance or software running on another computer, which inspects network traffic passing through it, and denies or permits passage based on a set of rules.

Functional Separation

Imposing an obligation of “equivalence” on a vertically integrated network provider to ensure all retail service providers, including its own downstream business, are treated equally.

Gigabit per second (Gbps)

Equal to 1, 000, 000, 000 bits

Gigabyte

Is a unit of information or computer storage meaning either exactly 1 billion bytes or approximately 1.07 billion bytes. The usage of the word "gigabyte" is ambiguous: the value depends on the context. When referring to RAM sizes and file sizes, it traditionally has a binary definition, of 10243 bytes. For other uses, it means exactly 10003 bytes. In order to address this confusion, currently the International Electro-technical Commission (IEC) promotes the use of the term "gibibyte" for the binary definition. It is commonly abbreviated GB or Gbyte (not to be confused with Gb, which is used for a gigabit).

GPON

An abbreviation of Gigabit Passive Optical Networks, this technology is generally preferred. GPON is where a single optical fibre is used to provide services to a group of premises, with is single fibre providing services for premises up to 30 km from its source. A passive splitter is situated close to the homes and 'splits' the fibre to service up to 64 premises. GPON is therefore a shared network, with the advantage that resulting in large cost reductions due to the decrease in splicing and jointing costs; it also produces a much lower carbon footprint compared to non-shared FTTP networks, and traditional FTTN and ADSL broadband networks.

Greenfield

A term used to describe a piece of undeveloped land, either currently used for agriculture or just left to nature.

Hybrid Fibre Coaxial

A telecommunications industry term for a broadband network which combines optical fibre and coaxial cable.

IPTV

A system where a digital television service is delivered using Internet Protocol over a network infrastructure, which may include delivery by a broadband connection. A general definition of IPTV is television content that, instead of being delivered through traditional broadcast and cable formats, is received by the viewer through the technologies used for computer networks.

Kilobyte

A unit of information or computer storage equal to either 1,024 bytes (210) or 1,000 bytes (103), depending on context. It is abbreviated in a number of ways: kB, KB, K and Kbyte.

Last-mile Infrastructure

The infrastructure used to provide the link from a customer's premises to the provider's nearest point of aggregation. For example, a provider offering a wireless broadband service to the customer would be providing Last-mile Infrastructure using wireless broadband technology.

Local Loop (also referred to as a subscriber line)

The physical link or circuit, that connects from the demarcation point of the customer premises to the edge of the carrier, or telecommunications service provider, network.

Megabit

A unit of information or computer storage abbreviated Mbit (or Mb). 1 megabit = 1,000,000 bits, which is equal to 125,000 bytes. In kilobytes this is either 125 kB (decimal meaning) or about 122 kB (122 KiB) (binary meaning). The megabit is most commonly used when referring to data transfer rates in network speeds, e.g. a 100 Mbps (megabit per second).

Megabyte

Is a unit of information or computer storage equal to either 106 (1,000,000) bytes or 220 (1,048,576) bytes, depending on context. In rare cases, it is used to mean 1000×1024 (1,024,000) bytes. It is commonly abbreviated as Mbyte or MB (compare Mb, for the megabit). The term megabyte was coined in 1970.

MiMo

In radio, it is the use of multiple antennas at both the transmitter and receiver to improve communication performance. It has attracted attention in wireless communications, since it offers significant increases in data throughput and link range without additional bandwidth or transmit power. It achieves this by higher spectral

efficiency (more bits per second per hertz of bandwidth) and link reliability or diversity (resulting in reduced fading).

Multi-layered broadband infrastructure

A network comprising of wireless, optic-fibre, xDSL, and high-speed satellite service.

Next Generation Networking

A broad term to describe some key architectural evolutions in telecommunication core and access networks that will be deployed over the next 5-10 years. The general idea behind NGN is that one network transports all information and services (voice, data, and all sorts of media such as video) by encapsulating these into packets, like it is on the Internet. NGNs are commonly built around the Internet Protocol, and therefore the term "all-IP" is also sometimes used to describe the transformation towards NGN.

Open Access Network

A horizontally layered network architecture and business model that separates physical access to the network from service provisioning. The same OAN will be used by a number of different providers that share the investments and maintenance cost.

Optical Fibre

A glass or plastic fibre that carries light along its length. Widely used in communication because it transmits over longer distances and at higher data rates than other forms of communication.

Packet

In information technology, a packet is a formatted block of data carried by a packet mode computer network. Computer communications links that do not support packets, such as traditional point-to-point telecommunications links, simply transmit data as a series of bytes, characters, or bits alone. When data is formatted into packets, the bit-rate of the communication medium can better be shared among users than if the network would have been circuit switched.

Pair Gain

A method of transmitting multiple POTS signals over the twisted pairs traditionally used for a single traditional subscriber line in telephone systems. Pair gain has the effect of creating additional subscriber lines. This is typically used as an expedient way to solve subscriber line shortage problems by using existing wiring, instead of installing new wires from the central office to the customer premises. Pair gain has come into disfavour in recent years, as it is detrimental to high speed dial-up modem connections, does not support 56k and is incompatible with Digital Subscriber Line (DSL) systems.

Point of Presence

An Internet point of presence is an access point to the Internet. It is a physical location that houses servers, routers, ATM switches and digital/analogue call aggregators. It may be either part of the facilities of a telecommunications provider that the Internet service provider (ISP) rents or a location separate from the telecommunications provider.

Point to Point

Generally refers to a connection restricted to two endpoints, usually host computers. Point-to-point is sometimes referred to as P2P, or Pt2Pt, or variations of this. Among other things, P2P also refers to peer-to-peer file sharing networks. A traditional point-to-point data link is a communications medium with exactly two endpoints and no data or packet formatting. The host computers at either end have to take full responsibility for formatting the data transmitted between them.

Remote Integrated Multiplexer (RIM)

Also known as a Digital Loop Carrier (DLC) - a system which uses digital transmission to extend the range of the local loop farther than would be possible using only twisted pair copper wires. A DLC digitizes and multiplexes the individual signals carried by the local loops onto a single data stream on the DLC segment.

Satellite Broadband Service

A service solution delivered by a two-way satellite service, or other service determined by the Department to be satellite based.

Shaping

The practice of slowing data speed once the monthly data usage limit, as specified in a Service Plan, is reached.

Structural Separation

The creation of separate companies with ownership controls, which prevent retail service providers, including the incumbent's downstream businesses, from having effective control in the NBN infrastructure.

Terabyte

Commonly abbreviated TB is a measurement term for data storage capacity. The value of a terabyte based upon a decimal radix (base 10) is defined as one trillion (short scale) bytes, or 1000 gigabytes.

Terrestrial Broadband Service

Is a service solution delivered by ground based networks, including ADSL, cable type services, wireless services, or any other service determined by the Department to be terrestrially based.

Twisted Pair

A form of wiring in which two conductors (two halves of a single circuit) are wound together for the purposes of cancelling out electromagnetic interference (EMI) from external sources; for instance, electromagnetic radiation from unshielded twisted pair (UTP) cables, and crosstalk between neighbouring pairs.

Unbundled Local Loop

Is the regulatory process of allowing multiple telecommunications operators use of connections from the telephone exchange's central office to the customer's premises.

Universal Service Obligation

The obligation placed on universal service providers to ensure that standard telephone services, payphones and prescribed carriage services are reasonably accessible to all people in Australia on an equitable basis, wherever they reside or carry on business. No carriage services have been prescribed to date. Telstra is currently the sole universal service provider, but additional universal service providers may be declared in the future. As the universal service provider, Telstra is obliged to have a policy statement and marketing plan approved by ACMA. The policy statement and marketing plan outline how Telstra intends to fulfil its obligations as universal service provider, including fulfilling its obligations to people with a disability, people with special needs and eligible priority customers.

Video on Demand

A system that allows users to select and watch/listen to video or audio content on demand.

Voice Over Internet Protocol

A protocol optimized for the transmission of voice through the Internet or other packet-switched networks.

WiMax

WiMAX — Worldwide Interoperability for Microwave Access - a wireless technology that provides high-speed broadband connections over long distances. It is not a mobile platform; it is specifically designed for optimum broadband performance. It is internationally recognised as a technology that delivers the highest quality wireless broadband.