

# Glossary of selected industry terms and helpful links

**3G (Third Generation Wireless):** The third generation of mobile phone standards and technology. A key goal of 3G standards was to enable mobile broadband data speeds above 384 Kbps. 3G networks enable network operators to offer users a wider range of more advanced services while achieving greater network capacity through improved spectral efficiency. Advanced services include video and multimedia messaging and broadband wireless data, all in a mobile environment.

**3.5G (Enhanced Third Generation Wireless):** Evolutionary upgrades to 3G services that provide significantly enhanced broadband wireless data performance to enable multi-megabit data speeds. The key 3.5G technologies in North America are HSPA and CDMA EV-DO.

**4G (Fourth Generation Wireless):** A technology that offers increased voice, video and multimedia capabilities, a higher network capacity, improved spectral efficiency, and high-speed data rates over current 3G benchmarks. Also referred to as LTE.

**4.5G (Enhanced Fourth Generation Wireless):** Evolutionary upgrades to 4G services that enables two to three times the download speeds of 4G technology. 4.5G technology has been designed to support virtual and augmented reality, 4K streaming, and other emerging services.

**5G (Fifth Generation Wireless):** The proposed next generation of wireless telecommunications standards. We expect 5G technology to result in significantly reduced latency compared to LTE, improvements in signalling efficiency and coverage, and the ability to connect to more devices at once than ever before.

**4K - Ultra-High Definition Video:** Denotes a specific television display resolution of 4096x2160 pixels. 1920x1080 resolution full-HD televisions present an image of around 2 megapixels, while the 4K generation of screens displays an 8 megapixel image.

**ARPA (Average Revenue per Account):** This business performance measure, expressed as a dollar rate per month, includes all the revenue generated by an account (as opposed to a user or device) so that a customer who has many devices will typically have a higher ARPA than a customer with only one device.

**ARPU (Average Revenue per User):** This business performance measure, expressed as a dollar rate per month, is predominantly used in the wireless and cable industries to describe the revenue generated per customer per month. ARPU is an indicator of a wireless or cable business' operating performance.

**AWS (Advanced Wireless Services):** The wireless telecommunications spectrum band that is used for wireless voice, data, messaging services, and multimedia.

**Bandwidth:** Bandwidth can have two different meanings: (1) a band or block of radio frequencies measured in cycles per second, or Hertz; or (2) an amount or unit of capacity in a telecommunications transmission network. In general, bandwidth is the available space to carry a signal. The greater the bandwidth, the greater the information-carrying capacity.

**BDU (Broadcast Distribution Undertaking):** An undertaking for the reception of broadcasting and the retransmission thereof by radio waves or other means of telecommunication to more than one permanent or temporary residence or dwelling unit or to another such undertaking.

**bps (Bits per Second):** A measurement of data transmission speed used for measuring the amount of data that is transferred in a second between two telecommunications points or within network devices. Kbps (kilobits per second) is thousands of bps; Mbps (megabits per second) is millions of bps; Gbps (gigabits per second) is billions of bps; and Tbps (terabits per second) is trillions of bps.

**Broadband:** Communications service that allows for the high-speed transmission of voice, data, and video simultaneously at rates of 1.544 Mbps and above.

**Bundling:** Refers to the coupling of independent products or services offered into one retail package.

**BYOD (Bring Your Own Device):** Refers to the action that customers are able to sign up for wireless services on a personally purchased device, as opposed to the traditional means of acquiring one through a term contract.

**Cable Telephony (Phone):** The transmission of real-time voice communications over a cable network.

**Churn:** This business performance measure is used to describe the disconnect rate of customers to a telecommunications service. It is a measure of customer turnover and is often at least partially reflective of service quality and competitive intensity. It is usually expressed as a percentage and calculated as the number of subscriber units disconnecting in a period divided by the average number of units on the network in the same period.

**CLEC (Competitive Local Exchange Carrier):** A telecommunications provider company that competes with other, already established carriers, generally the ILEC.

**Cloud Computing:** The ability to run a program or application on many connected computers simultaneously as the software, data and services reside in data centres.

**CPE (Customer Premise Equipment):** Telecommunications hardware, such as a modem or set-top box, that is located at the home or business of a customer.

**CRTC (Canadian Radio-television and Telecommunications Commission):** The federal regulator for radio and television broadcasters and cable TV and telecommunications companies in Canada.

**Data Centre:** A facility used to house computer systems and associated components, such as telecommunications and storage systems. It generally includes redundant or backup power supplies, redundant data communications connections, environmental controls (e.g., air conditioning, fire suppression), and security controls.

**DOCSIS (Data Over Cable Service Interface Specification):** A non-proprietary industry standard developed by CableLabs that allows for equipment interoperability from the headend to the CPE. The latest version (DOCSIS 3.1) enables bonding of multiple channels to allow for download speeds up to 10 Gbps and upload speeds up to 2 Gbps, depending upon how many channels are bonded together.

**DSL (Digital Subscriber Line):** A family of broadband technologies that offers always-on, high-bandwidth (usually asymmetrical) transmission over an existing twisted-pair copper telephone line. DSL shares the same phone line as the telephone service but uses a different part of the phone line's bandwidth.

**Fibre Optics:** A method for the transmission of information (voice, video, or data) in which light is modulated and transmitted over hair-thin filaments of glass called fibre optic cables. The bandwidth capacity of fibre optic cable is much greater than that of copper wire and light can travel relatively long distances through glass without the need for amplification.

**FTTH (Fibre-to-the-Home):** Represents fibre optic cable that reaches the boundary of the living space, such as a box on the outside wall of a home.

**GSM (Global System for Mobile Communications):** A TDMA-based technology and a member of the "second generation" (2G) family of mobile protocols that is deployed widely around the world, especially at the 850, 900, 1800, and 1900 MHz frequency bands.

**HDR (High Dynamic Range):** An imaging technique used to reproduce a greater dynamic range of luminosity than is possible with standard digital imaging or photographic techniques.

**Hertz:** A unit of frequency defined as one cycle per second. It is commonly used to describe the speeds at which electronics are driven in the radio industry. MHz (megahertz) is millions of hertz; GHz (gigahertz) is billions of hertz; and THz is trillions of hertz.

**Homes Passed:** Total number of homes that have the potential for being connected to a cable system in a defined geographic area.

**Hosting (Web Hosting):** The business of housing, serving, and maintaining files for one or more websites or email accounts. Using a hosting service allows many companies to share the cost of a high-speed Internet connection for serving files, as well as other Internet infrastructure and management costs.

**Hotspot:** A Wi-Fi access point in a public place, such as a café, train station, airport, commercial office property, or conference centre.

**HSPA (High Speed Packet Access):** HSPA is an IP-based packet-data enhancement technology that provides high-speed broadband packet data services over 3G networks. HSPA+ provides high-speed broadband packet data services at even faster speeds than HSPA over 4G networks.

**HUP (Hardware Upgrade):** The act of an existing wireless customer upgrading to a new wireless device.

**Hybrid Fibre-Coaxial Network Architecture:** A technology in which fibre optic cable and coaxial cable are used in different portions of a network to carry broadband content (such as video, voice, and data) from a distribution facility to a subscriber premise.

**ILEC (Incumbent Local Exchange Carrier):** The dominant telecommunications company providing local telephone service in a given geographic area when competition began. Typically, an ILEC is the traditional phone company and the original local exchange carrier in a given market.

**IoT (Internet of Things):** The concept of connecting everyday objects and devices (e.g., appliances and cellular phones) to the Internet and each other. This allows them to sense their environment and communicate between themselves, allowing for the seamless flow of data.

**IP (Internet Protocol):** The packet-based computer network protocol that all machines on the Internet must know so they can communicate with one another. IP is a set of data switching and routing rules that specify how information is cut up into packets and how they are addressed for delivery between computers.

**IP TV (Internet Protocol Television):** A system where a digital television signal is delivered using IP. Unlike broadcasting, viewers receive only the stream of content they have requested (by surfing channels or ordering video on demand).

**ISED Canada (Innovation, Science and Economic Development Canada):** The Canadian federal government department responsible for, amongst other things, the regulation, management, and allocation of radio spectrum and establishing technical requirements for various wireless systems.

**ISP (Internet Service Provider):** A provider of Internet access service to consumers and/or businesses.

**LAN (Local Area Network):** A network created via linked computers within a small area, such as a single site or building.

**LTE (Long-Term Evolution):** A fourth generation cellular wireless technology (also known as 4G) that has evolved and enhanced the UMTS/HSPA+ mobile phone standards. LTE improves spectral efficiency, lowers costs, improves services, and, most importantly, allows for higher data rates. LTE technology is designed to deliver speeds up to 300 Mbps.

**LTE Advanced:** A mobile communication standard that represents a major enhancement of the LTE standard. With a peak data rate of 1 Gbps, LTE Advanced also offers faster switching between power states and improved performance at the cell edge.

**M2M (Machine-to-Machine):** The wireless interconnection of physical devices or objects that are seamlessly integrated into an information network to become active participants in business processes. Services are available to interact with these 'smart objects' over the Internet, query, change their state, and capture any information associated with them.

**MVNO (Mobile Virtual Network Operator):** A wireless communications service provider that does not own the wireless network infrastructure through which it provides services to its customers.

**Near-net:** Customer location(s) adjacent to network infrastructure allowing connectivity to the premises to be extended with relative ease.

**Off-net:** Customer location(s) where network infrastructure is not readily available, necessitating the use of a third-party leased access for connectivity to the premises.

**On-net:** Customer location(s) where network infrastructure is in place to provide connectivity to the premises without further builds or third-party leases. An on-net customer can be readily provisioned.

**OTT (Over-the-Top):** Audio, visual, or alternative media distributed via the Internet or other non-traditional media.

**Penetration:** The degree to which a product or service has been sold into, or adopted by, the base of potential customers or subscribers in a given geographic area. This value is typically expressed as a percentage.

**POPs (Persons of Population):** A wireless industry term for population or number of potential subscribers in a market, a measure of the market size. A POP refers to one person living in a population area, which, in whole or in substantial part, is included in the coverage areas.

**Postpaid:** A conventional method of payment for wireless service where a subscriber pays a fixed monthly fee for a significant portion of services. Usage (e.g. long distance) and overages are billed in arrears, subsequent to consuming the services. The fees are usually arranged on a term contract basis.

**Prepaid:** A method of payment for wireless service that allows a subscriber to prepay for a set amount of airtime or data usage in advance of actual usage. Generally, a subscriber's prepaid account is debited at the time of usage so that actual usage cannot exceed the prepaid amount until an additional prepayment is made.

**PVR (Personal Video Recorder):** A consumer electronics device or application software that records video in a digital format. The term includes set-top boxes with direct-to-disk recording capabilities, which enables video capture and playback to and from a hard disk.

**Set-Top Box:** A standalone device that receives and decodes programming so that it may be displayed on a television. Set-top boxes may be used to receive broadcast, cable, and satellite programming.

**Spectrum:** A term generally applied to electromagnetic radio frequencies used in the transmission of sound, data, and video. Various portions of spectrum are designated for use in cellular service, television, FM radio, and satellite transmissions.

**SVOD (Subscription Video-on-Demand):** Refers to a service that offers, for a monthly charge, access to specific programming with unlimited viewing on an on-demand basis.

**TPIA (Third-Party Internet Access):** Wholesale high-speed access services of large cable carriers that enable independent service providers to offer retail Internet services to their own end-users.

**TSU (Total Service Unit):** In the cable TV industry, this typically refers to television, Internet, and cable telephony subscribers. A subscriber that has purchased television and Internet services is counted as two TSUs. A subscriber that has purchased television, Internet, and cable telephony services is counted as three TSUs, etc.

**VOD (Video-on-Demand):** A cable service that allows a customer to select and view movies and shows at any time from a library of thousands of titles.

**VoIP (Voice over IP):** The technology used to transmit real-time voice conversations in data packets over a data network using IP. Such data networks include telephone company networks, cable TV networks, wireless networks, corporate intranets, and the Internet.

**VoLTE (Voice over LTE):** A platform to provide voice services to wireless customers over LTE wireless networks. The LTE standard only supports packet switching, as it is all IP-based technology. Voice calls in GSM are circuit switched, so with the adoption of LTE, carriers are required to re-engineer their voice call network, while providing continuity for traditional circuit-switched networks on 2G and 3G networks.

**Wi-Fi:** The commercial name for a networking technology standard for wireless LANs that essentially provide the same connectivity as wired networks, but at lower speeds. Wi-Fi allows any user with a Wi-Fi-enabled device to connect to a wireless access point.

## Helpful links

### Canadian Radio-Television and Telecommunications Commission (CRTC)

The CRTC is an independent public organization that regulates and supervises the Canadian broadcasting and telecommunications systems. It reports to Parliament through the Minister of Canadian Heritage. [www.crtc.gc.ca](http://www.crtc.gc.ca)

### Innovation, Science and Economic Development Canada (ISED Canada)

ISED Canada is a ministry of the federal government whose mission is to foster a growing, competitive, knowledge-based Canadian economy. It also works with Canadians throughout the economy and in all parts of the country to improve conditions for investment, improve Canada's innovation performance, increase Canada's share of global trade, and build an efficient and competitive marketplace. [www.ic.gc.ca](http://www.ic.gc.ca)

### Federal Communications Commission (FCC)

The FCC is an independent United States government agency. The FCC was established by the Communications Act of 1934 and is charged with regulating interstate and international communications by radio, television, wire, satellite, and cable. The FCC's jurisdiction covers the 50 states, the District of Columbia, and U.S. territories. [www.fcc.gov](http://www.fcc.gov)

### Canadian Wireless Telecommunications Association (CWTA)

The CWTA is the industry trade organization and authority on wireless issues, developments, and trends in Canada. It represents wireless service providers as well as companies that develop and produce products and services for the industry, including handset and equipment manufacturers, content and application creators, and business-to-business service providers. [www.cwta.ca](http://www.cwta.ca)

### The Wireless Association (CTIA)

The CTIA is an international non-profit membership organization, founded in 1984, representing wireless carriers and their suppliers, as well as providers and manufacturers of wireless data services and products. The CTIA advocates on their behalf before all levels of government. [www.ctia.org](http://www.ctia.org)

### GSM Association (GSMA)

The GSMA is a global trade association representing nearly 800 operators with more than 300 companies in the broader mobile ecosystem, including handset and device makers, software companies, equipment providers, and Internet companies, as well as organizations in adjacent industry sectors. In addition, more than 180 manufacturers and suppliers support the Association's initiatives as associate members. The GSMA works on projects and initiatives that address the collective interests of the mobile industry, and of mobile operators in particular. [www.gsma.com](http://www.gsma.com)

### Commission for Complaints for Telecom-television Services (CCTS)

An independent organization dedicated to working with consumers and service providers to resolve complaints about telephone, television, and Internet services. Its structure and mandate were approved by the CRTC. [www.ccts-cprst.ca](http://www.ccts-cprst.ca)



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