Communications Sector Terminology Glossary
Created by the Indiana Executive Council on Cybersecurity Communications Committee

This document is provided to share terminology related to the communications sector with other critical infrastructure sectors to simplify cross-sector collaboration. The content includes infrastructure components, services, and related terminology that is unique to the communications sector.

ACCESS CHARGE
A fee charged subscribers or other telephone companies by a local exchange carrier for the use of its local exchange networks.

ADSL
Asymmetric digital subscriber line (**ADSL**) is a type of digital subscriber line (DSL) technology, a data communications technology that enables faster data transmission over copper telephone lines than a conventional voiceband modem can provide. ADSL differs from the less common symmetric digital subscriber line (SDSL). In ADSL, bandwidth and bit rate are said to be asymmetric, meaning greater toward the customer premises (downstream) than the reverse (upstream). Providers usually market ADSL as a service for consumers for Internet access for primarily downloading content from the Internet, but not serving content accessed by others.

ANALOG SIGNAL
A signaling method that uses continuous changes in the amplitude or frequency of a radio transmission to convey information.

BANDWIDTH
The width of a communications channel. In analog communications, bandwidth is typically measured in Hertz. In digital communication, bandwidth is measured in bits per second (bps).

BROADBAND
In telecommunications, broadband means a wide range of frequencies over which information can be transmitted. A simple way to compare broadband and narrowband Internet connections is to picture a highway. Only one car can travel at a time on a one-lane highway (narrowband). However, when a highway is six or eight lanes wide (broadband), more traffic can drive on the road at the same time.

Think back to when you had a dial-up Internet connection. Now think about the Internet today. You have 'always-on' data connections that enable you to access multiple media sources and a wide range of information at the same time. That's broadband.

CARRIER
A company that is authorized by regulatory agencies to operate a telecommunications system. Examples include AT&T, Alltel, and Verizon.

CDMA (Code Division Multiple Access)
CDMA is a channel access method used by different radio communication technologies- one way to understand CDMA is to think of a party where everyone is talking at the same time. Lots of confusion, right? CDMA assigns different codes to each group of users, so other groups hear just noise-- and tune out.

CENTRAL OFFICE (CO)
In almost every neighborhood there is a windowless building that houses the switching equipment that connects your telephone to your neighbor's telephone or routes your call to another central office for long distance calls. This building is called the central office. The central office has switching equipment that can switch calls locally or to long-distance carrier phone offices.

CIRCUIT-SWITCHED NETWORK
Circuit-switched is a type of network in which a physical path is obtained for and dedicated to a single connection between two end-points in the network for the duration of the connection. Ordinary voice phone service is circuit-switched. The telephone company reserves a specific physical path to the number you are calling for the duration of your call. During that time, no one else can use the physical lines involved.

CLEC - Competitive Local Exchange Carrier
The Telecommunications Act of 1996 opened the door to competition for local phone service. This act mandated that the Incumbent Local Exchange Carriers (ILEC) such as Verizon, Bell South, or SBC provide the necessary interfaces so that CLECs could provide seamless local service. For example, MegaPath is a CLEC.

COMMON CARRIER
In the telecommunications arena, the term used to describe a telephone company.

COMMUNICATIONS ASSISTANT
A person who facilitates telephone conversation between text telephone users, users of sign language or individuals with speech disabilities through a Telecommunications Relay Service (TRS). This service allows a person with hearing or speech disabilities to communicate with anyone else via telephone at no additional cost.

COMMUNITY ANTENNA TELEVISION (CATV)
A service through which subscribers pay to have local television stations and additional programs brought into their homes from an antenna via a coaxial cable.

CPE (Customer Provided Equipment)
Telephone equipment (key systems, PBXs, answering machines, etc.) which live on the customer's premises.

CSP (Communication Service Provider)
An umbrella term used to describe both traditional providers of communication services (i.e.: telecom) and alternate providers such as cable TV companies and other over-the-top providers.

CSR - Customer Service Record
A copy of how your telephone records appear in your local carriers' database. It contains information items and charges such as: type of service, federal access charge, number portability charge, calling blocks on the line, 911 charge, etc. It is the "snapshot" of your entire service for each line.

DAC (Digital Analog Converter)
A device which converts digital pulses (i.e.: data) into analog signals so that the signal can be used by analog devices such as phones.

DC POWER PLANT
Each Central Office houses an AC power plant as well as an AC/DC converter that runs the majority of the telecommunications equipment. Some Central Office Technicians focus on keeping these power plants running efficiently 24/7.

DIAL AROUND
Long distance services that require consumers to dial a long-distance provider's access code (or "10-10" number) before dialing a long-distance number to bypass or "dial around" the consumer's chosen long-distance carrier in order to get a better rate.

DIGITAL TELEVISION (DTV)
A new technology for transmitting and receiving broadcast television signals. DTV provides clearer resolution and improved sound quality.

DIRECT BROADCAST SATELLITE (DBS/DISH)
A high-powered satellite that transmits or retransmits signals which are intended for direct reception by the public. The signal is transmitted to a small earth station or dish (usually the size of an 18-inch pizza pan) mounted on homes or other buildings.

DSL (Digital Subscriber Line)
The technology used between a customer's premises and the telephone company to support the transport of higher bandwidth digital signals on the copper twisted wire pairs already in place as part of the telephony infrastructure. Also known as generic name signifying the family of Digital Subscriber Line technologies including ADSL, HDSL, VDSL, etc.

DSLAM
A DSLAM (Digital Subscriber Line Access Multiplexer) is a network device, usually at a telephone company central office, that receives signals from multiple customer Digital Subscriber Line (DSL) connections and puts the signals on a high-speed backbone line using multiplexing techniques. Depending on the product, DSLAM multiplexers connect DSL lines with some combination of asynchronous transfer mode (ATM), frame relay, or Internet Protocol networks. DSLAM enables a phone company to offer business or homes users the fastest phone line technology (DSL) with the fastest backbone network technology (ATM).

DSO, DS1 & DS3 (Digital Signal 0, 1, 3, etc)
Different levels of digital hierarchy for the amount and speed of data carried on a circuit. The fundamental speed level is DS-0, which is a voice grade channel.

DWDM (Dense Wave Division Multiplexing)
The higher-capacity version of WDM, which is a means of increasing the capacity of fiber-optic data transmission systems through sending many wavelengths of light down a single strand of fiber.

ENHANCED SERVICE PROVIDERS
A for-profit business that offers to transmit voice and data messages and simultaneously adds value to the messages it transmits. Examples include telephone answering services, alarm/security companies and transaction processing companies.

EnodeB
E-UTRAN Node B, also known as Evolved Node B (abbreviated as eNodeB or eNB), is the element in E-UTRA of LTE that is the evolution of the element Node B in UTRA of UMTS. It is the hardware that is connected to the mobile phone network that communicates directly wirelessly with mobile handsets (UEs), like a base transceiver station (BTS) in GSM networks.

Traditionally, a Node B has minimum functionality, and is controlled by a Radio Network Controller (RNC). However, with an eNB, there is no separate controller element. This simplifies the architecture and allows lower response times.

FTTC, FTTH, FTTB
Think "Fiber to the ____". In the acronyms above, the ____ is Cabinet, Home and Business and relate to optical fiber extensions. Translation? Access networks that consist of optical fiber from the exchange to the cabinet//home/business.

FACILITY (facilities)
A facilities person assigns the cable or fiber pair numbers. The facilities assignment refers to where the telephone number starts in the central office and the route it takes from the central office to the end address (includes those boxes you see on the side of the street).

FEMTOCELLS
Femtocells enhance coverage and capacity inside buildings which means fewer dropped calls. This has potential to allow cell phone calls to travel over the internet. *"Femtocells. They will be everyplace. And the cheaper they are, the easier to install. the better coverage you get."* - Ivan Seidenberg, CEO Verizon

FIBER / FIBER OPTIC CABLE
Transmits light signals along glass strands, permitting 10-100 times faster transmission than traditional copper wire. What this means to the consumer, is faster, more efficient cell phones and Internet connections.
You may hear FTTH (fiber to the home), FTTP (fiber to the premises). Those terms simply mean – how close the fiber comes to a building, house…end user. The closer it comes, the faster the connection.

FRAME
A rack to which telecommunications equipment is mounted. You will see these in Central Offices.

FRAME RELAY
The standard for high-speed data communications, offering users transmission speeds of 2.048 megabits per second and higher. It allows faster speeds than the X.25 packet switching standard because it does away with elaborate error-correction and routing information. Its main application is interconnecting local area networks.

FREQUENCY MODULATION (FM)
A signaling method that varies the carrier frequency in proportion to the amplitude of the modulating signal.

GLOBAL POSITIONING SYSTEM (GPS)
A US satellite system that lets those on the ground, on the water or in the air determine their position with extreme accuracy using GPS receivers.

HCS (Hierarchical Cell Structure)
Hierarchical Cell Structure: the architecture of a multi-layered cellular network where subscribers are handed over from the macro to the micro to the pico layer, depending on the current network capacity and the needs of the subscriber.

HD VOICE
A technology that provides better audio quality by delivering at least twice the sound range (wideband) of a traditional (narrowband) telephone call.

HDSL (High Bit Rate Digital Subscriber Line)
This is digital access technology typically used by businesses. It requires two copper wire pairs (or in some cases fiber) but doesn't require complex engineering and installation.

HSPA (High Speed Packet Access)
Often referred to as 3.5G, this is an extension to the original 3G standard providing significantly higher data rates. HSDPA (downlink) can provide theoretical maximum downlink speeds of 168 Mbps. HSUPA (uplink) supports maximum uplink speeds of 22 Mbps.

INFRASTRUCTURE
This is an incredibly important part of the communications industry. Roughly 25% of all telecom workers are involved with telecom infrastructure – in its simplest terms, infrastructure includes the pieces and parts that make sophisticated communications systems work.

INTERACTIVE VIDEO DATA SERVICE (IVDS)
A communication system, operating over a short distance, that allows nearly instantaneous two-way responses by using a hand-held device at a fixed location. Viewer participation in game shows, distance learning and e-mail on computer networks are examples.

INSTRUCTIONAL TELEVISION FIXED SERVICE (ITFS)
A service provided by one or more fixed microwave stations operated by an educational organization and used to transmit instructional information to fixed locations.

IPTV (Internet Protocol Television)
Digital television delivered over the Internet. It can be accessed through a closed or public network, with a computer or a set-top box capable of processing the video streams. This is in direct competition with traditional cable and broadcast television. IPTV can be bundled with VoIP and Internet access for a triple play service, increasing the competition that other television providers face.

ISDN
Integrated Services Digital Network (**ISDN**) is a set of communication standards for simultaneous digital transmission of voice, video, data, and other network services over the traditional circuits of the public switched telephone network. The key feature of ISDN is that it integrates speech and data on the same lines, adding features that were not available in the classic telephone system. The ISDN standards define several kinds of access interfaces, such as Basic Rate Interface (BRI), Primary Rate Interface (PRI), Narrowband ISDN (N-ISDN), and Broadband ISDN (B-ISDN).

ISDN is a circuit-switched telephone network system, which also provides access to packet switched networks, designed to allow digital transmission of voice and data over ordinary telephone copper wires, resulting in potentially better voice quality than an analog phone can provide. It offers circuit-switched connections (for either voice or data), and packet-switched connections (for data), in increments of 64 kilobit/s.

L2TP (Layer 2 Tunneling Protocol)
Layer 2 Tunneling Protocol is an IETF (Internet Engineering Task Force) standard tunneling protocol for VPNs. ISPs use this to provide secure, node to node communications in support of multiple, simultaneous tunnels in the core of the internet or IP based networks.

LANDLINE
Traditional wired phone service.

LAND MOBILE SERVICE
A public or private radio service providing two-way communication, paging and radio signaling on land.

LATA - Local Access and Transport Area
Geographic area covered by one or more local telephone companies, which are legally referred to as local exchange carriers (LECs). A connection between two local exchanges within the LATA is referred to as intraLATA. A connection between a carrier in one LATA to a carrier in another LATA is referred to as interLATA. InterLATA is long-distance service. The current rules for permitting a company to provide intraLATA or interLATA service (or both) are based on the Telecommunications Act of 1996.

LOW POWER FM RADIO (LPFM)
A broadcast service that permits the licensing of 50-100 watt FM radio stations within a service radius of up to 3.5 miles and 1-10 watt FM radio stations within a service radius of 1 to 2 miles.

LOW POWER TELEVISION (LPTV)
A broadcast service that permits program origination, subscription service or both via low powered television translators. LPTV service includes the existing translator service and operates on a secondary basis to regular television stations. Transmitter output is limited to 1,000 watts for normal VHF stations and 100 watts when a VHF operation is on an allocated channel.

LTE (Long Term Evolution)
LTE is a broadband access technology that enhances the ability of mobile users to access larger amounts of data. LTE operates on a lower frequency of 700 MHz giving it enhanced signal range and building/obstacle penetration. AT&T and Verizon Wireless are building their 4G networks with LTE technology.

This is a big deal because for the most part, consumers want more and more data. In fact, a recent IBM report shows that when people are asked what they would be least likely to cut back on to save money - people chose mobile phones and broadband Internet only after their homes.

MICROCELL
A **microcell** is a cell in a mobile phone network served by a low power cellular base station (tower), covering a limited area such as a mall, a hotel, or a transportation hub. A microcell is usually larger than a picocell, though the distinction is not always clear. A microcell uses power control to limit the radius of its coverage area.

Typically, the range of a microcell is less than two kilometers wide, whereas standard base stations may have ranges of up to 35 kilometers (22 mi). A picocell, on the other hand, is 200 meters or less, and a femtocell is on the order of 10 meters, although AT&T calls its femtocell that has a range of 40 feet (12 m), a "microcell".

MICROWAVE
A common form of transmitting telephone and data conversations that occupies a very high frequency range and produces a signal good for about 30 miles.

MMS (Multimedia Messaging Service)
The standard in mobile messaging services, adding photos, pictures and audio to text messages.

MOBILE BROADBAND
Wireless high-speed internet access through a portable modem, telephone or other device.

MUST-CARRY (Retransmission)
A 1992 Cable Act term requiring a cable system to carry signals of both commercial and noncommercial television broadcast stations that are "local" to the area served by the cable system.

MUX - MULITPLEX
To transmit two or more signals over a single channel. In the world of CAT5 the explosion of choices that digital TV is bringing the multiplex means to offer subscribers a choice of various starting times for movies and events.

NETWORK
A telecommunications network is a collection of terminals, links and nodes which connect together to enable telecommunication between users of the terminals. Networks may use circuit switching or message switching. Each terminal in a network must have a unique address so messages or connections can be routed to the correct one.
*Wikipedia definition

NETWORK OPERATIONS CENTER (NOC)
A **network operations center** (or **NOC**, pronounced "knock") is one or more locations from which control is exercised over a computer, television broadcast or telecommunications network.

NUMBER PORTABILITY
A term used to describe the capability of individuals, businesses and organizations to retain their existing telephone number(s) — and the same quality of service — when switching to a new local service provider.

OPEN VIDEO SYSTEMS
An alternative method to provide cable-like video service to subscribers.

OPERATOR SERVICE PROVIDER (OSP)
A common carrier that provides services from public phones, including payphones and those in hotels/motels.

OUTSIDE PLANT
Refers to all of the physical cabling and supporting infrastructure (such as conduit, cabinets, tower or poles), and any associated hardware (such as repeaters) located between a demarcation point in a switching facility to another switching facility or to a customer premises.

PACKET SWITCHING
Packet switching is a method of grouping data which is transmitted over a digital network into *packets* which are made of a header and a payload. Data in the header is used by networking hardware to direct the packet to its destination where the payload is extracted and used by application software. Packet switching is the primary basis for data communications in computer networks worldwide.

PAGING SYSTEM
A one-way mobile radio service where a user carries a small, lightweight miniature radio receiver capable of responding to coded signals. These devices, called "pagers," emit an audible signal, vibrate or do both when activated by an incoming message.

PBX
Private Branch Exchange Digital or analog telephone switchboard located on the customer premises and used to connect private and public telephone networks.

PBX (Private Branch Exchange)
A private (as in owned by the telephone company) exchange (as in the Central Office). A PBX is a small version of the phone company's larger central switching office. In other words, an analog telephone switchboard located on the customer premises and used to connect private and public telephone networks.

PERSONAL COMMUNICATIONS SERVICE (PCS)
Any of several types of wireless, voice and/or data communications systems, typically incorporating digital technology. PCS licenses are most often used to provide services similar to advanced cellular mobile or paging services. However, PCS can also be used to provide other wireless communications services, including services that allow people to place and receive communications while away from their home or office, as well as wireless communications to homes, office buildings and other fixed locations.

PLANT
A general term for all equipment used by a telephone company to provide telecommunications services. In the telecom business, plant comes in two variations – inside and outside plant. Inside is in a building. Outside is outside the building – on poles, in the ground.

POTS
Plain old telephone service (POTS), or plain ordinary telephone service, is a retronym for voice-grade telephone service employing analog signal transmission over copper loops. POTS was the standard service offering from telephone companies from 1876 until 1988 when the Integrated Services Digital Network (ISDN) Basic Rate Interface (BRI) was introduced, followed by cellular telephone systems, and voice over IP (VoIP). POTS remain the basic form of residential and small business service connection to the telephone network in many parts of the world. The term reflects the technology that has been available since the introduction of the public telephone system in the late 19th century, in a form mostly unchanged despite the introduction of Touch-Tone dialing, electronic telephone exchanges and fiber-optic communication into the public switched telephone network (PSTN).

PRESCRIBED INTEREXCHANGE CHARGE (PICC)
The charge the local exchange company assesses the long-distance company when a consumer picks it as his or her long-distance carrier.

PSTN
The public switched telephone network (PSTN) is the aggregate of the world's circuit-switched telephone networks that are operated by national, regional, or local telephone operators, providing infrastructure and services for public telecommunication. The PSTN consists of telephone lines, fiber optic cables, microwave transmission links, cellular networks, communications satellites, and undersea telephone cables, all interconnected by switching centers, thus allowing most telephones to communicate with each other. Originally a network of fixed-line analog telephone systems, the PSTN is now almost entirely digital in its core network and includes mobile and other networks, as well as fixed telephones.

RAN
A **radio access network** (**RAN**) is part of a mobile telecommunication system. It implements a radio access technology. Conceptually, it resides between a device such as a mobile phone, a computer, or any remotely controlled machine and provides connection with its core network (CN). Depending on the standard, mobile phones and other wireless connected devices are varyingly known as user equipment (UE), terminal equipment, mobile station (MS), etc. RAN functionality is typically provided by a silicon chip residing in both the core network as well as the user equipment.

RBOC (Regional Bell Operating Company)
There are seven (also known as Baby Bells) which own the local exchange carriers in the US following the divestiture/breakup of AT&T ('Ma Bell') in 1984.

ROAMING
The use of a wireless phone outside of the "home" service area defined by a service provider. Higher per-minute rates are usually charged for calls made or received while roaming. Long distance rates and a daily access fee may also apply.

SS7
Signaling System No. 7 (SS7) is a set of telephony signaling protocols developed in 1975, which is used to set up and tear down most of the world's public switched telephone network (PSTN) telephone calls. It also performs number translation, local number portability, prepaid billing, Short Message Service (SMS), and other mass market services.

In North America it is often referred to as *CCSS7*, abbreviated for *Common Channel Signaling System 7*. In the United Kingdom, it is called *C7* (CCITT number 7), *number 7* and *CCIS7* (Common Channel Interoffice Signaling 7). In Germany, it is often called ZZK-7 (*Zentraler ZeichengabeKanal Nummer 7*).

SATELLITE
A radio relay station that orbits the earth. A complete satellite communications system also includes earth stations that communicate with each other via the satellite. The satellite receives a signal transmitted by an originating earth station and retransmits that signal to the destination earth station(s). Satellites are used to transmit telephone, television and data signals originated by common carriers, broadcasters and distributors of cable TV program material.

SATELLITE UPLINK
Uplink refers to a transmission of data in which data flows from a ground-based transmitter to an orbital satellite receiver. Uplink is used to send data to a satellite in Earth’s orbit in order to make changes to the way the satellite functions or simply redirect data to another ground-based receiver. Uplink is used in every application that involves the use of an orbital satellite and is a necessary component of all satellite-based telecommunications systems. Like downlink, uplink depends on the use of C Band, Ku Band, and Ka Band radio frequencies, although the frequency ranges differ in downlink and uplink applications.

SERVICE PLAN
The rate plan you select when choosing a wireless phone service. A service plan typically consists of a monthly base rate for access to the system and a fixed amount of minutes per month.

SERVICE PROVIDER
A telecommunications provider that owns circuit switching equipment.

SPLICE
The joining of two or more cables together by splicing the conductors together. In copper wire telephone cables, splicing is on a mechanical basis and pair-to-pair, with the pairs organized by binder groups and color codes. In optical fiber cables, the splicing is fiber-to-fiber, with the fibers organized by ribbon or colored buffer tube and color code. Fiber optics splicing may be either mechanical splicing or fusion splicing.

SUBSCRIBER LINE CHARGE (SLC)
A monthly fee paid by telephone subscribers that is used to compensate the local telephone company for part of the cost of installation and maintenance of the telephone wire, poles and other facilities that link your home to the telephone network. These wires, poles and other facilities are referred to as the "local loop." The SLC is one component of access charges.

SWITCH - SWITCHING
A device that channels incoming data from any of multiple input ports to the specific output port that will take the data toward its intended destination. In the traditional circuit-switched telephone network, one or more switches are used to set up a dedicated though temporary connection or circuit for an exchange between two or more parties. On an Ethernet local area network (LAN) a switch determines from the physical device (Media Access Control or MAC) address in each incoming message frame which output port to forward it to and out of. In a wide area packet-switched network such as the Internet, a switch determines from the IP Address in each packet which output port to use for the next part of its trip to the intended destination. * definition from whatis.com

TARIFF
The documents filed by a carrier describing their services and the payments to be charged for such services.

TELECOMMUNICATIONS
Transmitting signals over a distance in order to communicate. The classic 'tin can' telephone is a very simple telecommunications system. Emerging technologies have brought us far from that model. Today's communication could be via telephone, television, radio, satellite, wireless network, computer network, telemetry, or other means. These technologies, plus many more are converging—you can access the Internet, play videos, or track your children's movements via global positioning system (GPS) technology on your cell phone—so the lines between telecommunications and other industries like computer hardware, application software, consumer electronics and entertainment are getting blurrier all the time.

TELECOMMUNICATIONS CIRCUIT
A telecommunication circuit is any line, conductor, or other conduit by which information is transmitted. Originally, this was analog, and was often used by radio stations as a studio/transmitter link (STL) or remote pickup unit (RPU) for their audio, sometimes as a backup to other means. Later lines were digital and used for private corporate data networks.

TELECOMMUNICATIONS RELAY SERVICE (TRS)
A free service that enables persons with TTYs, individuals who use sign language and people who have speech disabilities to use telephone services by having a third party transmit and translate the call.

TELECOMMUNICATIONS SYSTEMS
Networks of leading-edge technologies such as fiber optic systems, satellites, wireless, telephony, and cable, which are connected to computers that allow organizations and individuals throughout business and industry to communicate instantaneously around the world.

TELEPHONE EXCHANGE
A telephone exchange is a telecommunications system used in the public switched telephone network or in large enterprises. An exchange consists of electronic components and in older systems also human operators that interconnect (*switch*) telephone subscriber lines or virtual circuits of digital systems to establish telephone calls between subscribers.

TELEPHONE LINE
A telephone line or telephone circuit (or just line or circuit within the industry) is a single-user circuit on a telephone communication system. This is the physical wire or other signaling medium connecting the user's telephone apparatus to the telecommunications network, and usually also implies a single telephone number for billing purposes reserved for that user. Telephone lines are used to deliver landline telephone service and Digital subscriber line (DSL) phone cable service to the premises. Telephone overhead lines are connected to the public switched telephone network.

TELEPHONE NUMBER
A telephone number is a sequence of digits assigned to a fixed-line telephone subscriber station connected to a telephone line or to a wireless electronic telephony device, such as a radio telephone or a mobile telephone, or to other devices for data transmission via the public switched telephone network (PSTN) or other private networks.

TELEPHONY
The word used to describe the science of transmitting voice over a telecommunications network.

TIRKS (Trunks Integrated Record Keeping System)
An operations support system developed by the Bell System during the late 1970s. It was developed for inventory and order control management of interoffice trunk circuits that interconnect telephone switches. It grew to encompass and automate many functions required to build the ever-expanding data transport network. Supporting circuits from POTS and 150 baud modems up through T1, DS3, SONET and DWDM, it continues to evolve today, and unlike many software technologies today, provides complete backward compatibility. TIRKS is in use at AT&T, Verizon, CenturyLink, and Cincinnati Bell Telephone.

TOLL
A device that receives calls and allows them to be transmitted to the next local calling area, thus avoiding toll or access charges.

TRUNK / TRUNKING
A communication line between two switching systems. The term switching system typically includes equipment in a Central Office and PBXs. A tie trunk connects PBXs. Central office trunks connect a PBX to the switching system at the Central Office.

TTY
A type of machine that allows people with hearing or speech disabilities to communicate over the phone using a keyboard and a viewing screen. It is sometimes called a TDD.

TWISTED CABLE PAIR
Twisted pair cabling is a type of wiring in which two conductors of a single circuit are twisted together for the purposes of improving electromagnetic compatibility. Compared to a single conductor or an untwisted balanced pair, a twisted pair reduces electromagnetic radiation, crosstalk between neighboring pairs and improves rejection of external electromagnetic interference. It was invented by Alexander Graham Bell.

UNIVERSAL SERVICE
The financial mechanism which helps compensate telephone companies or other communications entities for providing access to telecommunications services at reasonable and affordable rates throughout the country, including rural, insular and high costs areas, and to public institutions. Companies, not consumers, are required by law to contribute to this fund. The law does not prohibit companies from passing this charge on to customers.

VDSL
Very-high-bit-rate digital subscriber line (VDSL) and very-high-bit-rate digital subscriber line 2 (VDSL2) are digital subscriber line (DSL) technologies providing data transmission faster than asymmetric digital subscriber line (ADSL).

VDSL offers speeds of up to 52 Mbit/s downstream and 16 Mbit/s upstream, over a single flat untwisted or twisted pair of copper wires using the frequency band from 25 kHz to 12 MHz. These rates mean that VDSL is capable of supporting applications such as high-definition television, as well as telephone services (voice over IP) and general Internet access, over a single connection. VDSL is deployed over existing wiring used for analog telephone service and lower-speed DSL connections

VIDEO HEADEND
The Video Headend is the point in the network which linear (e.g., broadcast TV) and on-demand (e.g., movies) content is captured and formatted for distribution over a network. The headend ingests national feeds of linear programming via satellite either directly from the broadcaster or programmer or via an aggregator. The Headend takes each individual channel and allows the operator the option to use RF or encode it into digital video format, like Mpeg 2 or Mpeg 4, for both standard (SD) and high definition (HD) television signals. This digital video formatted content is then ingested into a Quam or IP network for delivery.

VIVID
The acronym VIVID includes each component of the evolving communications industry: Voice, Information, Video, Infrastructure & Data. Check out our Industry Overview page to see some of the vivid components of telecom in action.

VOICE
Audible communication over a traditional land-line, wireless cellular or smart phone or even through a computer via VOIP.

VOIP (Voice over Internet Protocol)
Harnesses the power of broadband internet connections to allow consumers access to telephone services over the internet. In other words, your words get converted into data signals and travel over the internet. Once they get to their destination, they are converted from data signals back into analog signals and transmitted. Upgrades in technology helped combat problems with early VoIP, such as poor quality and availability of service. Today's VoIP is a viable competitor to traditional telephony. As businesses continue to cut costs and limit travel budgets, expect to see the use of VoIP increase.

VoLTE
VoLTE, or Voice Over LTE is similar to VoIP- but goes one step further. Instead of using the hardware at the ends of the call (the phones), VoLTE offloads the heavy lifting to the network- creating VoIP HD. Beyond a crisp and clear sound, VoLTE includes the ability to cancel echos and background noise on the back end, not the handset itself *.
*definition taken from pocketnow.com

WIDE AREA NETWORK (WAN)
A computer or communications network that covers a geographic area which is larger than a business campus. Usually, the dividing line between a local or campus network and an Wide Area Network is a router. On the local or campus side, the transmission lines in a network (copper or fiber) are usually owned by the enterprise. On the WAN side, the lines are typically owned by a carrier and leased to an enterprise.
By far, the most familiar – and largest WAN is the Internet.

WIRELESS
Wireless telecommunications carriers provide telephone, Internet, data, and other services to customers through the transmission of signals over networks of radio towers. The signals are transmitted through an antenna directly to customers, who use devices, such as cell phones and mobile computers, to receive, interpret, and send information.

3G and 4G

These terms refer to third- and fourth-generation cellular wireless capabilities. 3G and 4G networks allow mobile and smart phone users to access more information and services on their devices faster. It's because of these technological advances that you can video chat, watch Internet TV, play online games, download videos and listen to streaming music on your phone. Simply put, 3G and 4G allow you to do more.

Both 3G and 4G—now enhanced by LTE technology—are available across most of the U.S. today. The major difference between the two is speed. In general, 4G LTE networks are much faster than 3G LTE networks.

5G

Fifth-generation wireless, or 5G, is the latest iteration of cellular technology, engineered to greatly increase the speed and responsiveness of wireless networks. With 5G, data transmitted over wireless broadband connections could travel at rates as high as 20 Gbps by some estimates -- exceeding wireline network speeds -- as well as offer latency of 1 ms or lower for uses that require real-time feedback. 5G will also enable a sharp increase in the amount of data transmitted over wireless systems due to more available bandwidth and advanced antenna technology.