

Computer Telephony Terms and Technologies

This paper defines key technologies, concepts and terms in the telecommunications and computer-based telephony field that relate to 511. The terms have been separated into three categories: Core wireline/landline terms, wireless core terms, and computer telephony terms.

Core Wireline/Landline Terms

Tariffs: published rates, specifications, and service conditions for an offered communications service; states general obligations of both the carrier and customer; tariffs do not have the force of law and may be found unlawful by the courts (depending on the state)

Incumbent Local Exchange Carrier (ILEC): traditional local telephone companies that, prior to deregulation of the telephone industry, had the exclusive right and responsibility to provide local telephone service; ILEC delineates these service providers from the new competitive providers (CLECs)

Competitive Local Exchange Carrier (CLEC): after deregulation, companies that traditionally had the exclusive, franchised right and responsibility to provide local transmission and switching services were joined by new companies that are free to offer comparable services; local exchange carriers (LEC) were born and traditional telcos became known as ILECs (incumbent LECs), while new, independent data and voice telecommunication services companies became known as CLECS

Regional Bell Operating Company (RBOC): remnants of the dismantled AT&T / Bell system; created as a result of the antitrust trial; originally there were seven RBOCs; seven RBOCs were created in 1984, through mergers four presently remain: SBC, Verizon, Qwest, and BellSouth

Central Office (CO): a building owned by the telephone company where calls are routed to their destination via a complex framework of additional central offices and other equipment; the first stop when a call is placed

Loop: medium, usually copper wire, which connects a telephone to the central office

Trunk: path for information transfer between central offices

Port: an interface of a computer, telephone system, or network device where signals may be supplied, extracted, or observed

Private Branch Exchange (PBX): a telephone system within an organization's premises that switches calls between internal users on internal lines while allowing all users to share a certain number of external telephone lines; typically used in a business/office location

Public Switched Telephone Network (PSTN): facilities and the associated equipment that make up the large network wherein calls are routed and managed

Switch: equipment used to interconnect telephone lines and trunks, can be implemented at central office locations and larger private locations

Core Wireless Terms

Mobile Telephone Switching Office: similar to the landline central office, except located near a wireless tower; the first stop a wireless call makes when being routed

Cell: basic geographic service area of a wireless communications system; created by the use of a low power wireless transmitter; often deployed in a grid fashion forming a honeycomb shape

Roaming: when a mobile telephone user leaves the local geographic area defined by their carrier, the user is said to roaming and a higher fee schedule is usually applied; roaming areas vary greatly according to the agreement between the user and carrier; can also refer to the use of another carrier's service

Computer Telephony Terms

Computer telephony integration (CTI): the application of computer intelligence to the making and receiving of phone calls, fax communications, and other complex messaging

Voice recognition: the ability to recognize spoken words with a computer application; can be likened to dictation in that the computer recognizes the spoken word but does not understand what is being said; typically users must speak slowly and distinctly for system to recognize all words

Text to speech (TTS): the process by which a computer converts any readable text into human sounding speech output; compelling for 511 use when used in concert with an interactive voice response system or voice portal; TTS can be either in digitized form (computer-sounding voice) or in concatenated form (phrases pre-recorded with human voice)

Interactive voice response (IVR): a software application that runs in conjunction with computer telephony hardware to capture touchtone telephone keypad inputs or spoken commands; the keypad inputs or spoken commands are typically used to make menu selections, answer yes/no questions, or to spell out certain words or names; allows the user to self-navigate systems without operator assistance; sometimes viewed as cumbersome by some users

Voice portal: a voice-activated Internet or information portal built on voice recognition and text-to-speech technologies; users call up interactive voice menus and forms through a telephone or a properly equipped computer; content accessed in this manner can be traditional web pages converted to sound files or customized information created by the voice portal vendor; call 1-800-555-TELL or 1-800-4B-VOCAL for good examples – some traffic information is available on each

Voice over Internet protocol (VoIP): a protocol that allows voice to be transmitted over a channel traditionally used for data; allows for consolidation of resources and saves money in many cases; VoIP enables cheaper routing/switching of voice communications than traditional equipment

Voice Extensible Markup Language (VXML): An Internet standard that defines voice segments and enables access to the Internet and other voice-activated devices