

## **Videoconferencing Glossary**

**Algorithm** – A set of specifications that define methods and procedures for transmitting audio, video, and data.

**Analog Gateway** – A means of connecting dissimilar codecs. Incoming digital signal from one type of codec is decoded by a similar codec and converted to analog. The Analog signal is then passed to the dissimilar codec, coded, and decoded at the far end. Analog gateways achieved interoperability in a nonstandard environment, but have the disadvantages of degrading video and audio quality and often reducing functionality.

**Annex D Graphics** – An addendum to the H.320 videoconferencing protocol used for still image transfer between dissimilar videoconferencing systems.

**ATM** – Asynchronous Transfer Mode. An emerging networking method that can be used for carrying voice, video and data simultaneously over low speed (T1 – 1.5 Mbps) or very high speed (622 Mbps) networks.

**Bandwidth** – Amount of transmission capacity.

**Basic Rate Interface (BRI)** – An ISDN access or subscriber line, consisting of two 64Kbps B (“bearer”) channels and one 16Kbps D channel used for both data and signaling purposes.

**Broadcast** – One-way video, usually from a single transmitting site to many receiving sites. In some cases, the receiving sites can communicate to the transmitting site on an audio-only basis.

**CCITT** – International Telephone and Telegraph Consultative Committee. Now known as ITU-T. An international body that sets worldwide telecommunications standards, such as the Px64 standard for videoconferencing.

**Channel Bank** – Used to divide a T1 access facility into 24 digital or analog circuits.

**Channel Service Unit (CSU)** – A type of customer premise equipment that terminates a T1 access facility to a channel bank, PBX or other equipment capable of supporting a T1 interface.

**Codec** – Coder-Decoder: a device that encodes an incoming analog signal into a digital signal for transmission to another codec. The digital signal is decoded into analog format. In videoconferencing, codec typically code an decode video and audio.

**Compression** – Reduction of the amount of information to accommodate cost-effective digital transmission to another codec. For example, sub-T1 video codecs compress analog signals (roughly equivalent to 90,000 kilobits per second) to digital rates varying from 56 to 1,544 kilobits per second.

**Compression Ratio** – A compression ratio, usually expressed as 5:1, refers to the size of the original data versus the size after compression. If data has been reduced to one-fifth the original size, the compression ratio is 5:1.

**Dedicated Line** – A permanently assigned path connecting geographically dispersed sites on a long distance network. Synonym: private line: leased line.

**Delay** – Refers to the slight delay that sometimes occurs when transferring video, data and audio signals.

**DES** – Digital Encryption Standard, an encryption method defined by the National Bureau of Standards.

**Digital** – Information contained in the form of 0s and 1s for transmission on digital media, including fiber, microwave, and satellite. Digital information may include video, audio, graphics, and data.

**Digital Service Unit (DSU)** – A type of customer premises equipment that terminates a single DSO or fractional T1.

**DSO** – Digital Signal level zero. One 56Kbps (or 64Kbps) line or circuit.

**DS1** – Digital Signal level one. One 1.544Mbps digital signal comprised of 24 lines or channels, each with 64 Kbps capacity (see T1).

**Digital Switch** – A means of supporting multiway conferencing using the signals in their digital format without converting them to analog. Digital switches permit multiple users with similar codecs to conference generally with voice-activated switching.

**Dual 56** – Combination of two 56Kbps lines for a 112Kbps video transmission capacity. Dual 56 typically allows direct dialing of a videoconference call.

**E1** – High speed 2.048Mbps digital line with 32 channels, each operating at 64 Kbps. E1 is only available outside the U.S.A.

**Encryption** – Alteration of transmitting information to protect it from unauthorized tapping.

**FCIF or (CIF)** – Full Common Intermediate Format. A video resolution of 352 pixels horizontally and 288 pixels vertically. It is used primarily in higher bit rate (128Kbps and higher) video conferencing.

**Flash Memory** – Memory which occupies little space and does not need continuous power to be retained.

**F.R.A.D.** – Frame Relay Access Device: F.R.A.D. takes the information streams and multiplexes them on public or private frame relay networks.

**Frame Relay** – A packet switched networking technology used for low speed (T1 - 1.5Mbps and lower) WAN connections. Primarily used to connect a company's routers on their data network.

**Frames Per Second (fps)** – Frequency with which video frames appear on a monitor. Broadcast-quality video generally consists of 30 frames per second. Full-motion videoconferencing typically offers video in the range of 10 – 15 frames per second. At very low bandwidths, such as 56 or 112 Kbps, the frame rate may be lower.

**Full-Duplex Audio** – Audio that allows local and remote conference participants to speak simultaneously without losing audio contact. Full-duplex audio may be provided in a point-to-point or multipoint conference.

**Full-Motion** – In compressed video, picture quality that is generally acceptable to users although not of broadcast quality. Typically full-motion compressed video provides anywhere from 10 – 30 frames per second depending on the bandwidth allocated.

**Graphics** – Transmission of still images, usually from a video source, but in some cases PC-generated.

**G.711** – 3KHz audio-coding at 64Kbps.

**G.722** – 7KHz audio-coding at 64Kbps.

**G.728** – 3KHz audio compression at 16Kbps (wideband audio).

**Half-Duplex Audio** – Audio that permits only one site to speak at a time.

**H.320** – Umbrella standard for videoconferencing.

**H.221** – The ITU-T standard relating to communications protocol for videoconferencing.

**H.231** – Multipoint for linking three or more H.320 codecs.

**H.261** – The ITU-T Px64 standard relating to the video compression algorithm.

**H.230** – The ITU-T standard that defines call control and indication.

**H.242** – Call set-up and disconnect of two point videoconferencing.

**H.233** – Encryption.

**H.243** – Defines call control procedures between H.231 MCU and H.320 codecs.

**H.323** – Video over LAN/WAN.

**H.324** – Video over POTS.

**In-band** – Transmission taking place within allocated bandwidth. For example, a video call with total of 384Kbps may allocate 64 Kbps for audio, leaving 320Kbps for video.

**Integrated Presentation System** – Presentations such as those created in Microsoft® PowerPoint®, can be displayed and presented to the far site while simultaneously being presented to remote users connected via the Internet/Intranet.

**Interactive** – Communication in which all participating sites have equal capability. Interactive videoconferencing permits all sites to see and hear one another.

**Interoperability** – Communication between dissimilar codecs. The ITU-T Px64 standard is designed to permit interoperability.

**Inverse Multiplexer (Imux)** - A device that creates a single higher-speed transmission by combining and synchronizing two or more channels.

**ISDN (Integrated Services Digital Networks)** – A switched network service providing end-to-end digital connectivity for transmitting voice, data, and video simultaneously over a single line versus multiple. Uses high-speed, out-of-band signaling. There are two major forms of ISDN: BRI and PRI.

**ITU-T** - International Telecommunications Union-Telephony Sector. Formerly known as CCITT. An international body that sets worldwide telecommunications standards, such as the Px64 standards for videoconferencing.

**JPEG** – Joint Pictures Experts Group. Still-frame graphics for multimedia.

**Kilobits per Second (Kbps)** – Measure of rate of digital transmission, often abbreviated Kbps.

**LEC** – Local Exchange Carrier; provides local telecommunications service and access to long distance networks.

**Local Loop** – The communications lines between the long distance subscriber and the LEC switching center.

**Loopback** – A diagnostic test where a signal is transmitted over a communications link or network and then returned to the sending device. Loopbacks are used to make sure the video equipment is working properly and as a way to demonstrate videoconferencing.

**Multiplexer** – A device that permits subdivision of a given bandwidth. For example, a T1 Multiplexer may divide a T1 line (1,544Kbps) into two capacities of 768Kbps each.

**MPEG** – Motion Pictures Experts Group: This is a standard for motion video.

**Multiway** – Communication between more than two sites. Multiway communication may occur through a digital switch or through an analog gateway.

**Multipoint Control Unit** – Device which allows more than two sites to be connected in a videoconference. Sometimes called a digital switch or video bridge.

**NTSC** – North American standard for analog video format. National Television Systems Committee.

**Out of band** – Transmission taking place external to allocated bandwidth. A video call with out-of-band audio requires a separate phone line for the audio.

**PAL** – European standard for analog video format.

**Pixel** – Picture element; a measure of resolution for video format.

**Primary Rate Interface (PRI)** – An ISDN subscriber line consisting of 23 64Kbps B channels and one 64Kbps D channel used for signaling.

**POP** – Point-of-Presence. The location or office where a line from an Inter-Exchange Carrier (IXC) connects to the local telephone company or directly to the user.

**POTS** – Plan Old Telephone System. The analog phone system (including telephones, modems, central offices switches, etc., currently in use around the world.

**Px64** – The ITU-T's international video standard which provides a standard algorithm for video compression and decompression. Formally known as H.261, it was adopted in December 1990.

**QCIF** – Quarter Common Intermediate Format. A video resolution of ¼ the size of FCIF – 176 pixels horizontally and 144 pixels vertically. It is used primarily on low bite rate (128Kbps and lower) videoconferencing.

**RBOC** – Regional Bell Operating Company; controls a grouping of local exchange carriers.

**Resolution** – A measure of sharpness or clarity on a monitor.

**RSVP** – Resource Reservation Protocol. An emerging data network standard protocol used to reserve bandwidth within packet networks. It is primarily used in data network routers to guarantee a fixed bandwidth through the router for a single or group of users using real time data (like voice or video). All other traffic not assigned to the reservation (such as e-mail or Web access) is delivered by best effort by the router (as it is today).

**RS-232** – Connectivity from the codec permitting data inputs for transmission from .3 to 190.2 Kbps.

**RS-449** – Transmission interface between the codec and the transmission link that typically connects to a t1 Multiplexer. A user RS-449 port may also be available for data transfer.

**SECAM** – French standard for analog video format.

**SNMP** – Simple Network Management Protocol; the protocol governing network management and monitoring of network devices and their functions. SNMP came out of the TCP/IP environment.

**Standards** – Uniform specifications to permit interoperability in videoconferencing.

**Switched 56** – Transmission network at 56Kbps that allows dial-up videoconferencing. Because picture quality at 56Kbps is often not acceptable, most dial-up videoconferencing takes place on two 56Kbps lines, for a total of 112Kbps (see Dual 56).

**TCP/IP** – The international standard protocol used on the Internet and company data networks. It provides worldwide connectivity and includes services such as the World Wide Web, e-mail, file transfer and remote terminal login.

**Transmission Speed** – Data rate for videoconferencing, usually expressed in Kbps.

**T1** – Commonly used transmission line for videoconferencing, with a capacity of 1,544Kbps.

**T.120** – Multilayer protocols for graphics/data transmission.

**T3** – A 45Mbps leased line. Usually obtained from a local or long distance telephone carrier.

**Videoconferencing** – Communication across long distances with video and audio contact.

**Voice Activated Switching** – In multiway videoconferencing, used so that all participating sites automatically see the site which is currently speaking.

**Voice-tracking** – camera automatically tracks the voice of the person speaking.

**V.35** – Transmission interface between the codec and the transmission link that permits Switched 56 connectivity.

**Web Server** – A computer that delivers (serves up) Web pages. Every Web server has an IP address and possibly a domain name. For example, if you enter the URL <http://www.sandybay.com/index.html> in your browser, this sends a request to the server whose domain name is sandybay.com. The server then fetches the page named index.html and sends it to your browser.

**Web Browser** – A software application used to locate and display Web pages. Three of the most popular browsers are Netscape Navigator, Microsoft Internet Explorer, and Spyglass Mosaic. All of these are graphical browsers, which means that they can display graphics as well as text. In addition, most modern browsers can present multimedia information, including sound and video.