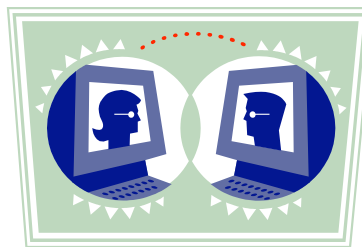


Glossary of Terms and Acronyms for Videoconferencing

Compiled by Irene L. Ferro, CSA III



**Education Technology Services
Conferencing Services**

Algorithm – an algorithm is a specified, usually mathematical way of doing something. For example, in a videoconference system, the “audio algorithm” defines exactly how audio such as the speakers voice will be converted to a string of ones and zeros (binary data) and then compressed for transmission to the other conference site.

ASP – APPLICATION SERVICE PROVIDER

ATM (Asynchronous Transmission Mode) – A new communications standard that is currently in the later stages of development. ATM is designed to transfer voice, video and other multimedia data that requires short bursts of large quantities of data that can survive small losses but must be broadcast in real time.

Bandwidth – Bandwidth defines the amount of information that can be sent and received in a certain time frame. In Videoconferencing, the higher the bandwidth, the higher the quality of the picture and sound during the Videoconference. Lower bandwidths result in more choppy pictures and sound.

Binary – A numbering system that uses strings of ones and zeros to represent numbers.

Bit – A basic unit of binary (digital) data. This is a single One or Zero that is transmitted. Collections of bits can be used to represent more complex values. A bit is the smallest unit of binary data that you can have.

Bridge – Software on a dedicated server that provides multipoint conferencing, some new videoconferencing units have a built in MCU (Multipoint Connection Unit) that allows multiple site connections.

Broadband – A generic term applied to networks having bandwidth significantly greater than traditional telephone networks (DSL, Cable Modem, T1, etc.) Broadband systems are capable of carrying a vast quantity of data.

Cable Modem – A hook-up to your cable TV system that allows you to transmit computer information and access the internet through your cable company.

CODEC – Coder Decoder- The piece of the videoconference unit that Codes and DECodes the videoconference signal so that it can be sent over the network or telephone lines.

Compressed Video – The codec is the core (or “engine”) of a videoconference system and is responsible for all of the encoding and decoding of information (audio, video). Before the transmission, the codec converts analog signals to digital signals and compresses the digital signals. Incoming audio and video must be decompressed and converted from digital back to analog.

Continuous Presence – Multiple Squares on one television monitor, displaying a different site in each square. This feature is built into many units today.

Desktop Conferencing – Using a personal computer to videoconference. This is suitable for small numbers of participants. It allows simultaneous transmission of documents (file sharing) or working together on files. It is also convenient.

Dial-Up Numbers – The IP address or the phone numbers assigned to a videoconference unit.

Digital Signals – A digital signal can only have a certain number of defined values (like 0 or 1). This is different from an analog signal that could have any value within a given range. In general, because of having only a certain number of defined possible values, a digital signal provides better performance than an analog.

Document Camera – A camera that is used during a videoconference to view and edit the same computer document.

Document Sharing – Allows users on both sides of the videoconference to view and edit the same computer document.

Echo Cancellation – Process of eliminating acoustic echo in a videoconferencing room.

Ethernet – A local- area network (LAN) protocol developed by Xerox Corporation, DEC and Intel in 1976. Ethernet uses a bus or star topology and supports data transfer rates of 10 or 100 Mbps. It is one of the most widely implemented LAN standards.

Far End – Refers to the videoconference site you are connected to.

Firewall – Any number of security schemes that prevent unauthorized users from gaining access to a computer network or that monitor transfers of information to and from the network.

Frame Rate – Frequency that the video frames are displayed on a monitor, typically described in frames-per-second (fps). The higher the frame rate the better the quality of the video.

Full Duplex – Sending audio data in both directions at the same time. Usually higher quality, but requires more bandwidth. Provides much more natural and useable audio to a videoconference because people on either end of the conference can speak at the same time.

Gateway – The interface between two opposing protocols, typically h.320 and h.323. by means of software and hardware, a gateway allows connection between otherwise incompatible networks.

H.225 – ITU Standard that describes H.323 call establishment and packetization. This standard also describes the use of RAS, Q.931 and RTP.

H.245 – ITU Standard that describes H. 323 syntax and semantics of terminal information messages as well as procedures to use them for in-band negotiation at the start of or during communication.

H.323 – ITU Standard that describes packet based video, audio and data conferencing o networks with non-guaranteed Quality of Service (QoS).

H. 324 – The standards used to specify voice and video transmission over traditional analog phone lines.

Half Duplex – A telecommunication system where data can flow in one direction at a time. For example, a half duplex speakerphone only allows one person to speak at a time.

High Speed – Refers to videoconferences that are connected at speeds of greater than 256 Kbps or higher.

IP – This is Internet Protocol. IP is the basic language of the Internet.

ISDN – ISDN stands for Integrated Services Digital Network. This is a type of telephone network that uses digital service right up to the end user's equipment (like an ISDN modem). This type of telephone network also

uses separate paths or channels for signaling so that the signaling information does not interfere with the data being sent by the user. It provides seamless communications of voice, video, and text between individual desktop videoconferencing systems and group videoconferencing systems. It allows for faster data transfer rates than existing analog lines.

ISP – Internet Service Provider

Jitter – Jitter is the variation in network latency. Typically, video systems should be able to accommodate jitter up to at least 100ms.

Kbps – It stands for “kilobits per second”. The “kilo” means “thousand”. This term is used when talking about the speed that a device (or circuit) can transport data. For example, a 56 kbps modem could transmit 56,000 bits in one second.

LAN – Local Area Network – A computer network linking workstations, file servers, printers and other devices within a local area, such as an office. LANs allow the sharing of resources and the exchange of both video and data.

Latency – The time between a node sending a message and receipt of the message by another node. Typically any latency is supportable, providing it is constant,

Local Site – The site at which you are located.

Modem (MODulator – DEModulator) – Allows the transmission of digital information over an analog line.

Multipoint Call – a call between three or more sites. The sites must connect via video bridge, which is also called a Multipoint control Unit (MCU). Some units have MCUs built into them today.

Mute – Each site is equipped with the mute function, either in the form of a button that is pressed on the remote control or keypad operating the system or on the microphone itself.

Near Site – Refers to the videoconference site you are at – the other site is the far site.

Network – Two or more computers linked together and able to share resources constitutes a network.

NDLA – National Distance Learning Association

Packet Based Network – A network where data is sent in small chunks, called packets. There is not a fixed path from the sender to the receiver, so each packet (chunk of data) has to identify the source and destination. Most corporate LANs (and the Internet) are packet based.

Packet Loss – Occurs when data is lost from the bit-stream, typically on public networks such as the Internet. Packet Loss can occur when passing through a router and has a higher chance of occurring as the hop count is increased. Packet loss can also occur at the receiver end when the transmitter sends data too quick.

Picture-in-Picture – When a television monitor displays a small picture of a different image than the one being displayed in full screen. In videoconferencing picture-in-picture is often used to avoid having two monitors.

Point-to-Point Call – Local and remote sites only

Port – In TCP/IP and UDP networks, an endpoint to a logical connection. The port number identifies what type of port it is. For example, port 80 is used for http traffic.

POTS (Plain Old Telephone System) – This is the traditional analog system for voice we use at home.

PRI – Primary Rate Interface – Another type of ISDN phone line with much higher capacity (23 B-Channels that can carry up to a total of 1472kbps). This type of circuit might be used by schools or businesses and may be shared between several users or devices.

Presets – Refers to the capability of being able to preprogram camera shots so that with the press of one button the camera will zoom/pan/tilt to a previously arranged camera position.

Proprietary Compression Algorithm – The vendors specify the algorithm for the compression of the video from their specific codec. A videoconferencing system using a proprietary algorithm can only communicate with a remote site using the same algorithm. This allows users with the same systems to communicate easily. Many vendors also specify standard compression algorithms to help users communicate with

different platforms that do not have the same proprietary compression algorithm.

PTZ – Pan, Tilt, Zoom – Remote control features that typically come with high-quality cameras that are used in room-sized videoconferencing systems.

Q.931 – Used to signal call setup on ISDN. Also used by H.225 to establish and disconnect H.323 calls.

RAS – This is Registration, Admission and Status Protocol. Used by endpoints and gatekeepers to communicate.

Real Time – A transmission that occurs right away, without any perceptible delays.

Room-based Videoconferencing – This is videoconferencing using a larger and more sophisticated system. These systems can be mobile stand-alone systems or customized for the needs of the user. These systems are more appropriate for large groups and more sophisticated techniques.

RSVP – Resource Reservation Protocol for reserving bandwidth through a RSVP enabled IP network.

RTCP – Real Time Control Protocol, RTCP provides a mechanism for session control and has four main functions; quality feedback, participant identification, RTCP packet transmission rate control and session control information transmission. The primary function of RTCP is to provide feedback.

RTP – Real Time Protocol. Described by H.225 on how to handle packetization of audio and video data for H.323. RTP does provide information to reconstruct real time data such as: payload type identification, sequence numbering and time-stamping, RTP does not address resource reservation and does not guarantee quality of service for real-time.

SNMP – Simple Network Management Protocol

Standard Compression Algorithm – this is a standard algorithm convention for compressing the video signal. This allows different videoconferencing systems to communicate with each other successfully. This does not always provide the same clarity as two similar systems using a proprietary algorithm. H.320 is the most commonly used standard.

Streaming Media – Sending video or audio over a network as needed, instead of forcing the user to download the entire file before using it. Typically a few seconds of data is sent ahead and buffered in case of network transmission delays. (Although some data is buffered to the hard drive, it is written to a temporary storage and is gone once viewing is complete.)

T-120 – This is another standard. This one defines the way in which data and computer applications can be shared between two or more users.

T-1 – Network link used on the Internet allowing speeds of up to 1.54 megabits/second.

T-3 – Higher speed (45 megabits/second) network link used on the Internet.

TCP – This is “Transport Control Protocol”. Protocol developed for the Internet to get data from one network device to another. TCP uses a retransmission strategy to insure that data will not be lost in transmission. A connection oriented Layer 4 Protocol used in H.323 to connect Q.931 and H.245 streams.

UDP - This is User Datagram Protocol. A connectionless protocol used in transmission of data over IP. While it does not require as much overhead as TCP, it is not as reliable in delivering data. UDP is used to transmit audio and video data in H.323.

Video Bridge – Computerized switching system (also known as MCU – Multipoint Control Unit), which allows more than two sites to communicate using videoconferencing. Many companies now offer bridging services for a set fee.

Videoconferencing – This is interactive communication using video and audio to communicate over long distances. It combines the interactivity of the telephone with the visual stimulation of the television. Videoconferencing may also include graphics and data exchange.

WAN (Wide Area Network) – A communications network that services a geographic area larger than that served by a local area network or metropolitan area network. WANs include commercial or educational dial-up networks such as CompuServe, Janet, and BITNET.

Whiteboarding – This term is used to describe the placement of shared documents on an on-screen “shared notebook” or “whiteboard.” Desktop

videoconferencing software includes “snapshot” tools that enable you to capture entire windows or portions of windows and place them on the whiteboard. Familiar Windows operations (cut and paste) put snapshots on the whiteboard. Familiar tools to mark up the electronic whiteboard much like you do with a traditional wall mounted board.