

Analog - An analog signal is one that uses electrical transmission methods to duplicate the original waveform. Voice and video sources (microphones, cameras) produce analog information; electronic equipment produces digital information. Analog networks are subject to interference, relatively low in reproduction quality, and not able to handle large quantities of data. Digital networks are rapidly replacing analog networks.

ATM - Asynchronous Transfer Mode. ATM provides a single network interface for audio, video, image, and text with sufficient flexibility for handling these different media types. The ATM transport technique uses a multiplexing scheme in which data are divided up into small but fixed-size units called cells. Each cell contains a 48-byte information field and five-bytes of header information for a total cell size of 53-bytes. Although it is a packet switching technique, ATM can achieve the integration of all types of traffic.

CODEC (Coder-Decoder) - Device used to convert analog signals to digital signals for transmission and reconvert signals upon reception at the remote site while allowing for the signal to be compressed for less expensive transmission.

Compressed Video - Video signals are downsized to allow travel along a smaller carrier. Some information is sacrificed in the process, which may result in diminished picture and sound quality.

Desktop Video - The merger of video, telephone, and computer technologies which delivers multimedia information and telecommunication capabilities at the individual computer workstation.

DS-0 - Digital Service, level 0. Consists of 64,000 bps. A normal, uncompressed telephone call uses a DS-0 or 64,000 bps.

DS-1 - Digital Service, level 1. Consists of 1.544 Mbps in North America and 2.048 Mbps elsewhere. Also called T-1. Equivalent to twenty-four DS-0 channels.

DS-3 - Digital Service, level 3. Consists of 44.736 Mbps or commonly know as 45 Mbps. Equivalent to twenty-eight T-1 channels. Also called T-3.

Digital Signals - A data signal transmitted using discrete steps in voltage rather than frequency, as in an analog signal.

Distance Education - Conveying knowledge from a distance. The organizational framework and process of providing instruction at a distance. Distance education takes place when a teacher and student are physically separated and technology such that voice, video, data and/or print is used to bridge the instructional gap.

Distance Learning - Learning that takes place while the learner is physically distant from the instructor and from the site of the materials.

Echo Cancellation - The process of eliminating the acoustic echo in a videoconferencing room.

Encryption - is the alteration of transmitting information to protect it from unauthorized tapping. Embedded encryption allows you to enjoy the full array of features without any degradation in performance, unlike third-party, non-embedded encryption solutions. All encryption methods use common algorithms.

Event Coordinator - Any person wishing to conduct a class, seminar or other activity over the Interactive Video Network.

Event Technician - Person/persons designated to be in the IVN classroom during an event to monitor details in technical operation.

File Transfer Protocol (FTP) – An application program that uses TCP/IP protocol to allow you to move files from a distant computer to a local computer using a network like the Internet.

Frame Relay - A packet network service, relying on the data integrity inherent in digital transmissions to speed up transmission. Frame Relay assumes the data is correct and starts checking as soon as it receives the header, in a half-dozen error checking steps.

Full Duplex - Process that allows a video terminal to transmit and receive audio and video simultaneously.

Gatekeeper - Manages calls between video terminals and the Multipoint Control Unit (MCU).

Gateway - A network element that performs conversions between different coding and transmission formats. A gateway is required to connect video systems using different standards. For example, a gateway allows a desktop video system (H.323 standard) to be connected into an IVN event (H.320 standard).

H.320 - The H.320 standard provides a foundation for audio, video, and data communications across dedicated or ISDN dialup-based networks, usually at 128k or above. H.320 is the video standard currently by IVN.

H.323 - The H.323 standard provides a foundation for audio, video, and data communications across IP-based networks, including the Internet. The H.323 video standard is typically used for desktop or Internet video.

Internet or Internet 1 - 1) Any large network made up of several smaller networks. 2) Capitalized, the international network or networks that connects educational, scientific, and commercial institutions. The common Internet connection used throughout the world by all users today. Can also be referred to as Commodity Internet.

Internet 2 - The high-speed Internet used by educational and research institutions. Use is restricted to specific functions such as research. Other names for Internet2 are “Abilene” and GPN.

IP Address – An identifier for a computer or device on a TCP/IP network. An IP address is a 32-bit numeric address written as four numbers separated by periods. Each set of numbers can be zero to 255. (An example might look like: 123.456.78.9).

ITD - Information Technology Services Department. A department of North Dakota state government responsible for all voice, data and video communications for state agencies and higher education institutions. A CIO appointed by the Governor administers ITD.

IVN - Interactive Video Network. A department of the North Dakota University System responsible for videoconference bridging, scheduling and troubleshooting.

Local Area Network (LAN) - Infrastructure used at a local site (building or campus) to link computers, file servers, printers, and other devices.

Mbps – MegaBits Per Second. Million bits per second.

MPEG 2 - Digital video compression standard set by the Motion Picture Expert Group allowing for the compression of a standard broadcast video channel into a 4 to 6 Mbps datastream. MPEG-2 provides a higher quality picture than MPEG-1 and is better at crisply displaying rapid motion like that found in many

televised sporting events. MPEG-2 is rapidly becoming the standard for mass-market digital video services such as Direct Broadcast Satellite.

MP3 or MPEG3 – Moving Picture Experts Group. Layer 3 is one of three coding schemes (layer 1, layer 2, and layer 3) for the compression of audio signals. Used for downloading music from the Internet. If you are downloading music from the Internet to your computer to be saved to a CD or loaded to an MP3 player, you are likely to be using this signal format.

Multipoint Control Unit (MCU) - A device that bridges together multiple inputs enabling three or more sites to participate in a videoconference. The MCU uses fast switching techniques to patch the presenters or speaker's input to the other participants.

Multipoint Videoconference- Videoconference with more than two sites. The sites must connect via a video bridge (MCU or MCS).

NDUS - North Dakota University System administered by the State Board of Higher Education.

Packet Loss - is typically referred to as packets lost on the “wire” or “network”. However; the codecs refer to packet loss as total video packets lost either by the network or because the video packet is unstable. A packet may be unusable due to corruption or excessive delay, excessive sequencing problems, etc. common confusion is someone may see no packet loss in the actual packets on the wire but the code is still reporting packet loss. This is possible when the packets get there but are unusable or are too late to be usable. So “packet loss” refers to packets that don't make it to the destination while dropped packets refer to packets that are outside of the jitter buffer – they are received but not are too late to be used, so they have been dropped.

Point-to-Point Videoconference - Videoconference between two sites.

Quality of Service (QoS) - Configuration of a network required to guarantee a reliable video and audio connection.

Router - A network device that examines the network addresses within a given protocol, determines the most efficient pathway to the destination, and then routes the data accordingly. Operates at the Networking Layer of the OSI model.

Server - A computer with a special service function on a network, generally receiving and connecting incoming information traffic.

Site Coordinator - Person designated by the campus (or site) to coordinate on-campus details in IVN room scheduling. Handles the local arrangements for IVN classes/events.

SVGA (Super VGA or XGA) - A video display format for computers. This technology typically offers resolutions of 800x600 and 1024x768, with up to 64,000 colors available in each.

T-1 - A digital carrier facility used to transmit a DS-1 formatted digital signal at 1.544 Mbps. See DS-1.

T-3 - A digital carrier facility consisting of 28 T1 lines in one at an aggregate speed of 44.746 Mbps. See DS-3.

VGA - A video display format for computers. This technology provides a maximum resolution of 640x480 with 16 colors.

Video Terminal - End point equipment used in videoconferencing.

Visual Presenter - A piece of classroom equipment that looks similar to an overhead projector and also referred to as document camera. The device contains a color video camera that can display lecture notes, illustrations, and small three-dimensional objects.

Voice Activated - Microphone or audio switch that is triggered by talking or other noise.

Wide Area Network (WAN) - Infrastructure used to connect local area networks (STAGEnet is considered a WAN).