CCITT SGXV
Working Party XV/1   Document AVC- *105*
Experts Group for ATM Video Coding   August 14-23 1991

SOURCE: DELTA INFORMATION SYSTEMS
          NATIONAL COMMUNICATIONS SYSTEM

TITLE: TERMINOLOGY CHAPTER FOR THE STATUS REPORT

TERMINOLOGY

A-law: A PCM coding and companding standard used in Europe. One common use is for digital voice communications.

Analog-to-digital (A-D) conversion: The conversion of an analog signal to a digital signal.

Asynchronous: A transmission method in which units of data are sent one character at a time preceded and followed by start/stop bits which provide timing (synchronization) at the receive terminal.

Channel: A single unidirectional or bidirectional path for transmitting or receiving, or both, of electrical or electromagnetic signals, usually in distinction from other parallel paths.

CODEC: Acronym for COder/DECoder. An electronic device that converts analog signals, typically video, voice, and/or data, into digital form and compresses them into a fraction of their original size to save frequency bandwidth on a transmission path.

Compression: The application of any of several techniques that reduce the number of bits required to represent information in data transmission or storage, therefore conserving bandwidth and/or memory.

Data Encryption Standard (DES): A national standard used in the U.S. for the encryption of information digitally transferred using a 64-bit key. The standard has been set by the National Bureau of Standards and provides only privacy protection, and is not recognized by NSA as providing security protection.

Data terminal equipment (DTE): Equipment consisting of digital end instruments that convert the user information into data signals for transmission, or reconvert the received data signals into user information.

FCIF: Full Common Intermediate Format. A video format defined in H.261 that is characterized by 352 luminance pixels on each of 288 lines, with half as many chrominance pixels in each direction.

Forward Error Correction (FEC): A system of error control for data transmission wherein the receiving device has the capability to detect and correct any character or code block that contains fewer than a predetermined number of symbols in error.

Full Duplex: An operating method in which transmission is permitted, simultaneously, in both directions of a telecommunication channel.

High-Resolution Graphics: A video system that provides better resolution than a standard home television. It is not unusual for a typewritten page to be easily read on a high-resolution monitor. Graphics with sufficient detail to be able to read a full 8 ½" by 11" typed page; approximately 1024 by 1024 pixels of resolution.

Interoperability: The condition achieved among communication-electronics systems or items of communications-electronics equipment when information or services can be exchanged directly and satisfactorily between them and/or to their users. The degree of interoperability should be defined when referring to specific cases.

ISDN: Integrated Services Digital Network. A project underway within the CCITT for the standardization of operating parameters and interfaces for a network that will allow a variety of mixed digital transmission services to be accommodated. Access channels include a basic rate (two 64 Kbps 'B' channels + one 16 Kbps 'D' channel) and a primary rate (23 64 Kbps 'B' channels and one 64 Kbps 'D' channel).

Layered Coding: Both "Embedded Bitstream" and "Syntactic Extension" compatibility methods are versions of layered coding. The difference between the methods is that all the data passes through the decoder (though some may be ignored) in the case of "syntactic extension". With the "embedded bitstream" method, the unused bitstreams need not be presented to the decoder.

"Flexible layering" was introduced in Doc. AVC-35 (May 1991) and provides for layers which could represent baseband or incremental information as appropriate in a given application. In the terminology above, decoding of data stream M is possible by making reference to data streams B...M, where B is the baseband picture signal and $1 \leq B \leq M$. This system includes single layer coding (B = M) as a special case.

Lip Synchronization: The relative timing of audio and video signals so that there is no noticeable lag or lead between audio and video.

Motion Compensation Coding: A type of interframe coding used by picture processors in the compression of video images. The process relies upon an algorithm that examines a sequence of frames to develop a prediction as to the motion that will occur in subsequent frames.

Multipoint: A telecommunications system which allows each of three or more sites to both transmit signals to and receive signals from all other sites.

P x 64: Family of 5 draft CCITT Recommendations. These include H.261, H.221, H.242, H.320, and H.230.

Pixel: A picture element that contains gray scale or color information. Note: Gray scale is an integration of density and gives resolution in terms of amplitude.

Pulse code modulation (PCM): A process in which a signal is samples, and each sample is quantized independently of other samples and converted by encoding to a digital signal.

QCIF: Quarter Common Intermediate Format. A video format defined in H.261 that is characterized by 176 luminance pixels on each of 144 lines, with half as many chrominance pixels in each direction. QCIF has ¼ as many pixels as FCIF.

Quantization: A process in which the continuous range of values of a signal is divided into nonoverlapping subranges, a discrete value being uniquely assigned to each subrange.

Raster: A predetermined pattern of scanning lines within a display space; e.g., the pattern followed by an electron beam scanning the screen of a television camera or receiver.

Resolution: A measurement of the smallest detail that can be distinguished by a sensor system under specific conditions. For video equipment, often measured in terms of pixels.

RGB: An acronym for Red-Green-Blue. A connection that consists of three different signals used to carry the red, green, and blue elements of a color image. Since the image is unencoded, it results in higher resolution and picture clarity than that allowed by NTSC video (which contains composite, encoded color information). Three different lines are needed for connection instead of the one for NTSC signals.

Sampling Rate: The number of samples taken per unit time; the rate at which signals are sampled for subsequent use, such as modulation, coding, quantization, or any combination of these functions.

Simplex Operation: Operation method in which transmission occurs in only one preassigned direction.

Synchronous: A process where the information and control characters are transmitted at even intervals in order to preserve continuity (synchronization) within a data communications system.

Teleconferencing: Generally, the transmission of audio and/or video communications of a conference such that two or more locations are connected and can function in the live exchange of information.

Video Teleconferencing: Two-way electronic form of communications that permits two or more people in different locations to engage in face-to-face audio and visual communication. Meetings, seminars, and conferences are conducted as if all of the participants are in the same room.

Video Telephone: Relating to video phones and video teleconferencing.