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MPEG94/220

ITU Telecommunication Standardization Sector
Study Group 15
Experts Group for ATM Video Coding and Systems
in ATM and other Network Environments

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Source: Bellcore
Title: Closed caption in ITU-T H.262/ISO 13818-2
Purpose: Proposal. Discussion in Video and Systems subgroups

Closed caption has been demonstrated to be a useful tool for video broadcasting since its inception. In North America, closed caption information is carried in the vertical blanking interval of the video signal, while in Europe it is carried via teletext. Currently, the North American HDTV Grand Alliance is considering closed caption in their HDTV MPEG2-based test system.

In broadcasting applications which use closed caption, the capacity must be available at all times. The closed caption information must be tightly synchronized with the picture data. Support of closed caption in the video picture layer allows a fixed amount of channel capacity to be dedicated to the service, while maintaining absolute synchronization with each HDTV frame. Carriage of this data as a separate service would require a separate synchronization mechanism. This synchronization was an essential requirement stated by the Grand Alliance. This mechanism also allows for relatively easy editing of the closed caption data downstream. For these reasons, and the fact that the bandwidth required is lower than using an entire transport stream packet for this service, the closed caption information is carried in the video picture layer user_data of the ISO/IEC DIS 13818-2/H.262 in the North American HDTV Grand Alliance test system.

We strongly urge that ITU-T and ISO consider a standard mechanism for closed caption information carriage, including specification of location, (de)cipher, and other necessary elements related to closed caption information carriage. We propose to carry the closed caption information in the user_data of the video picture layer (ITU-T H.262/ISO 13818-2), as in the North American HDTV Grand Alliance's approach.