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Specialists Group on Coding for Visual Telephony

SOURCE: VideoTelecom, Bellcore
TITLE: Optional FEC

This document proposes that the forward error correction used on the video data be made an optional feature. The use of FEC would be signalled by an external means, such as a BAS code in H.221. There are several motivating factors for this proposal. The FEC consumes about 4% of the video bandwidth. This amount is significant for codecs operating at 64 Kbps.

Presently, the encoder must support the FEC framing structure, as well as generate valid syndromes. The receiver is not required to use the syndrome that is sent to it, but it must also support the FEC framing structure.

The use of FEC is not as important at low data rates as it is at the higher rates. For a channel rate of 1 Mbps a bit error rate of $10^{-8}$ corresponds to an average time between errors of 100 seconds, but at 64 Kbps it is almost a half an hour.

It is proposed that at the beginning of a session, the codecs will exchange information about whether they support FEC or not. FEC would be used only if both codecs supported it.