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

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Source: Japan
Title: C&I signals and their channels
Purpose: Discussion

At the Singapore meeting, we identified the following different C&Is (see Section 7.2/AVC-707R[1]):

- video frame synchronous control signals in the ITU-T auxiliary PES with PTS,
- video frame asynchronous control signals (capability messages) in the ITU-T auxiliary PES, or other channels in case of asymmetrical communications,
- mode change control signals in PSI/PSM.

Draft H.32X [2] distributed after the Singapore meeting added the fourth one:

- video frame asynchronous C&I signals in the ITU-T auxiliary or DSM-CC PES.

These may be slightly extended and summarized in the following table:

C&I type	Signals	Channel
0) Video frame synchronous	• Split-screen indication • Document camera indication • Freeze Picture Release indication • Closed Caption • etc.	• ITU-T Rec. H.222.1 type A/B/C/D/E PES
1) Video frame asynchronous -1	H.24X capabilities	• Separate VC? or • ITU-T Rec. H.222.1 type A/B/C/D/E PES?
2) Video frame asynchronous -2	H.24X others (H.230 like signals) • Loop back • Video source indication • Audio source muted indication • Numbers, characters • etc.	• Separate VC? or • ITU-T Rec. H.222.1 type A/B/C/D/E PES?
3) Video frame asynchronous -3	DSM-CC extension	• ISO/IEC 13818_6_DSMCC PES or • any other channel?
4) Video frame asynchronous -4	Mode change control	• PSI/PSM

Note: Usage of five types A/B/C/D/E for ITU-T Rec. H.222.1 PES is to be clarified in H.222.1.

Discussion

1. Categories 1), 2) and 3) may share a channel for bi-directional (symmetrical or asymmetrical) communications. This can be a separate VC for its simplicity and flexibility (see my note "H.24X channel" dated Dec. 31, 1994).

2. DSM-CC is understood to be independent of the underlying transport channel. Can H.32X terminal use the H.24X signalling channel for DSM-CC? We should make distinction

between the channel for "H.32X - server" and that for "H.32X - network element" in Section 8/Annex 2 to AVC-707R [1].

3. How about unidirectional case? Since no negotiation is involved, the audiovisual signal should be self-describing; otherwise the mode of operation should be based on service contracts. PSI/PSM descriptors should serve for this purpose.

4. If the above discussion is agreeable, the description of category 0) and 4) should appear in Recommendation H.222.1 and 1), 2) and 3) in Recommendation H.24X.

References

[1] AVC-707R "Report of the seventeenth Experts Group meeting in Singapore (1-11 November 1994) - Part I and Part II (Rapporteur)", November 1994

[2] AVC-716 "Draft H.32X" (C-C. Li)", November 1994

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