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SOURCE: Stuart Dunstan, Siemens Ltd
TITLE: Codepoint and parameter duplication in H.245 and H.222.1
PURPOSE: Discussion and Proposal

1. Parameter duplication

It is noted that a number of system parameters are duplicated amongst Recommendations H.222.0, H.262, and H.245 e.g. `profile_and_level` indication. Also both H.222.1 [1] and H.245 [2] contain codepoints and parameters for the ITU-T stream types. For example consider the overlap in similarity between `ITU_T_audio_stream_descriptor()` in H.222.1 and `AudioCap` in H.245.

This overlap may not in itself be undesirable.

This does lead to the question however as to exactly what parameters should be in H.245. The following rule is proposed;

- H.245 should contain only those parameters which are necessary to completely describe the capabilities of a terminal, such that without this parameter the call could not proceed.

This may already be the case in H.245.

There are many other parameters required for video and audio decoding but they will not affect the capability to receive the call. These parameters need not be included in H.245.

2. Capabilities set descriptor for logical channel establishment

Before communication with a remote terminal can proceed terminal-to-terminal signalling must be used to;

- assign a multiplex identifier value to the logical channel for use by H.222.1
- convey information as to what will be transmitted on that logical channel for use by the Call Manager

For the Call Management at the remote terminal to accept the logical channel establishment request, it must have the required capabilities available at the time of the request. Given that the terminal capabilities are defined in H.245 it is proposed that a descriptor be defined that carries one of the following H.245 capabilities sets;

- `videoCap`
- `audioCap`
- `dataCap`
- `atmNetworkAdaptCap`

The descriptor is shown in Table 1.

In this way the remote terminal will be able to quickly find the information required to make the decision as to whether to accept or reject this logical channel establishment request.

While this information is contained in H.222.0/1 descriptors (which have not as yet been made mandatory) having the capabilities grouped together in one descriptor may be beneficial.

In some cases other descriptors will not be required.

This proposal recognises that while a capabilities exchange sequence has occurred at the start of the call, the receive terminal has to protect itself from accepting, during the call, a logical channel containing information that it can not understand .

Syntax	No. of bits	Identifier
ITU-T_H.245_capabilities_set_descriptor() {		
descriptor_tag	8	uimsbf
descriptor_length	8	uimsbf
for (i=0; i<N; i++) {		
H.245_capability_set	8	uimsbf
}		
}		

Table 1. Proposed H.245 capabilities set descriptor for use in H.222.1.

3. References

- [1] ITU-T Draft Recommendation, "Multimedia multiplex and synchronization for audiovisual communication in ATM environments", 31 January 1995.
- [2] ITU-T Draft Recommendation, "Multimedia system control", 7 April 1995.

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