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Title: MPEG DSM-CC Meeting in Tokyo, July 24-28/95
Purpose: Report

Abstract:

This contribution reports on Question 2/15 relevant activities at the ISO/IEC JTC1/SC29/WG11 meeting in Tokyo, July 24-28/95, within the DSM-CC Working Group

1. Introduction

This was the first meeting held after the publication of the ISO/IEC 13818-6 Committee Draft (CD) ISO/IEC JTC1/SC29/WG11 MPEG95/N0950 May 1995 "Generic Coding of Moving Pictures and Associated Audio: Digital Storage Media Command and Control".

At this meeting a clarification document was created to incorporate National body comments. Further clarification work will be carried out at an ad hoc meeting in Ottawa Canada in Sept 18-21/95. This delta document will be incorporated to the ISO/IEC 13818-6 CD to create a Draft International Standard (DIS) at its November/95 meeting in Dallas. The schedule for the International Standard (IS) is July/96.

The following are the Question 2/15 relevant discussions at this meeting:

Considered the synergy between DSM-CC and H.245

Clarified how resourceId is to be carried by Q.2931

Completed end-to-end ATM scenario for DSM-CC User-to-Network messages in case of 1st party ATM signaling with segregated DSM-CC operation

Completed end-to-end ATM scenario for DSM-CC User-to-Network messages in case of integrated ATM and DSM-CC operation

Filled in details for session forward

Filled in details for session transfer

Refined Download to absorb both User-to-User and User-to-Network Configuration.

Clarified relationship between User-to-User primitives and User-to-Network operations.

Clarified the video Stream control and the use of Normal Play Time

Started to put DSM-CC Conformance and Verification Test Plan (DSM-RSF)

Below are details on each of the above discussions.

2. Synergy between DSM-CC and H.245

Discussion was carried based on:

Contribution MPEG95/225 "Synergy between ISO/IEC MPEG-2 DSM-CC and ITU-T Recommendation H.245", Source: BNR,

Two viewgraphs provided by Mr. Sakae Okubo. In one viewgraph the H.245 stacks were shown and in the other the H.245 and DSM-CC functions were shown indicating an overlap.

The group acknowledged the complementary nature of H.245 and DSM-CC owing to the fact that the main focus in H.245 is ATM broadband conversational services and in DSM-CC is interactive multimedia with downstream MPEG-2 video. However it was noted that the initial focus in each of these standards may be expanded to encompass the other's.

A liaison letter to Question 2/15 was drafted on the H.245/DSM-CC synergy. Due to the lateness of the draft it was not processed at this plenary. The next window to send the liaison is at the ISO/IEC JTC1/SC29/WG11 meeting in November/95. The following are the main points extracted from the draft liaison letter.

"Effort should be spent on:

Coexistence of DSM-CC with H.245 on the same device.
Complementing DSM-CC with H.245 or vice versa in order to reduce the cost of implementing both on one device.

In order to satisfy the condition a) above, the DSM-CC User-to-Network Sub Working Group proposes that ITU-T Question 2/15 adopts in recommendation H.245, the mechanism for the carriage of the correlation identifier being defined by ITU-T Question 15/11 based on a request from the ISO/IEC JTC1/SC29/WG11 see item 3 below.

Further dialogue on b) above between Question 2/15 and the DSM-CC Working Group could be carried out at the functionality level which may lead to improved synergy."

3. resourceId is to be carried by Q.2931

DSM-CC liaison to SG11 (ISO/IEC JTC1/SC29/WG11 N0966 July/95) requested the creation of a new Correlation ID information element in Q.2931 set up messages in order to carry the DSM-CC resourceId of a minimum size of 20 bytes. It also hinted that H.245 could use the same mechanism to identify its end-to-end SVC resource numbers.

SG11 at its parallel July/95 meeting in Helsinki took the following steps based on the above liaison:

It renamed the Correlation ID in N0966 to Generic Identifier Transport (GIT). Thus it gave it a generic title.

Within the GIT, SG11 identified two tags, a Session identifier tag and a Resource identifier tag.

The Session identifier tag (Octet 5) contained one value 01 for DSM-CC sessionId part of the resourceId (all other values are reserved). This tag was followed by a Session identifier length and a Session identifier content of a maximum length of 20 bytes.

The Resource identifier tag (Octet 6) contained two values 01 for DSM-CC resourceNum part of the resourceId and 04 for H.245 resource/correlation number (all other values are reserved). This tag was followed by a Resource identifier length and a Resource identifier content of a maximum length of 4 bytes.

The procedure is that DSM-CC SVC calls will use both Session identifier and Resource identifier tags, while H.245 SVC calls will use only the Resource identifier tags.

At the ATM Forum in August 6-11/95 in Toronto, Canada the coding was further modified to allow for GITs other than Session and Resource identifiers. It is expected that SG15 at its October/95 meeting will formalize the GIT Q.2931 Set-up message Information Element.

4. 1st party ATM signaling with segregated DSM-CC operation

Completed the details of message flows in section 13.6 End-to-End ATM Segregated Direct in Informative Annex D "Examples of using DSM-CC User-Network messages with ATM".

This section is important to Q2/SG15 because of its direct relevance to H.310. In particular figure 2/H.310 is impacted.

5. Integrated ATM and DSM-CC operation

Agreed to include details of message flows in section 13.7 End-to-End ATM Integrated in Informative Annex D "Examples of using DSM-CC User-Network messages with ATM", despite of the fact that some ATM signaling needs are not presently available. This decision was taken in order to promote dialogue with ITU SG11, SG13, SG15, DAVIC and the ATM Forum.

6. Server Session Forward

This allows a destination Server to forward a Session being set up to it to another Server. The details will be added to section 4.6.7 of the normative text.

7. Server Session Transfer

This allows a Server with an already established Session and connections to transfer them to another Server. Considerable discussion took place at the meeting on this topic. The decision to add it to the document was postponed to the ad hoc meeting in Ottawa in September 18-21/95 where further contributions were requested to clarify the coordination of the Session transfer with the connection resource transfers, its interaction with the Session Forward feature and the its impact on the state tables.

8. Download

This is a very lightweight protocol for fast data or software download from a Server to a Client or from the Network to a Client (i.e., for both User-to-Network configuration and User-to-User downloads). Each settop should come equipped with this download protocol. Both traditional flow controlled download and broadcast download are covered with the same message sets.

9. Relationship between User-to-User primitives and User-to-Network operations

A functional separation has been made between a Session Gateway and Service Gateway (These together were referred to as Service Gateway). Within a Session there is only one active Session Gateway. A Service Gateway launches objects in order as Client has requested. Launch provides an ObjRef back to the Service Gateway. ObjRef includes DSM-CC protocol profile with Resource Information. The Resource Id has to match the User-to-Network resourceId.

10. Video Stream Control and the Use of Normal Play Time (NPT)

Clarified the various states in the stream control (section 5.5.4) and the use of NPT to start or stop play at specific points in the stream (Section 8).

11. DSM-CC Conformance and Verification Test Plan

An ad-hoc group has been established to complete the description of the validation, verification and conformance tests for DSM-CC. At this meeting a start was made by carrying out an end-to-end walkthrough covering both User-to-Network messages and User-to-User primitives. This provided the basis for the conformance test plan.

END