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Framework for Telepresence Multi-Streams

Abstract

This document defines a framework for a protocol to enable devices in a telepresence conference to interoperate. The protocol enables communication of information about multiple media streams so a sending system and receiving system can make reasonable decisions about transmitting, selecting, and rendering the media streams. This protocol is used in addition to SIP signaling and Session Description Protocol (SDP) negotiation for setting up a telepresence session.

Status of This Memo

This is an Internet Standards Track document.

This document is a product of the Internet Engineering Task Force (IETF). It represents the consensus of the IETF community. It has received public review and has been approved for publication by the Internet Engineering Steering Group (IESG). Further information on Internet Standards is available in Section 2 of RFC 7841.

Information about the current status of this document, any errata, and how to provide feedback on it may be obtained at <https://www.rfc-editor.org/info/rfc0000>.

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1. Synchronization Identity

The Synchronization Identity MCC attribute indicates how the individual Captures in multiple MCC Captures are synchronized. To indicate that the Capture Encodings associated with MCCs contain Captures from the same source at the same time, a Provider should set the same Synchronization Identity on each of the concerned MCCs. It is the Provider that determines what the source for the Captures is, so a Provider can choose how to group together Single Media Captures into a combined "source" for the purpose of switching them together to keep them synchronized according to the SynchronizationID attribute. For example, when the Provider is in an MCU, it may determine that each separate CLUE Endpoint is a remote source of media. The Synchronization Identity may be used across media types, i.e., to synchronize audio- and video-related MCCs.

Without this attribute it is assumed that multiple MCCs may provide content from different sources at any particular point in time.

For example:

Capture Scene #1	
VC1	Description=Left
VC2	Description=Center
VC3	Description=Right
AC1	Description=Room
CSV(VC1, VC2, VC3)	
CSV(AC1)	
Capture Scene #2	
VC4	Description=Left
VC5	Description=Center
VC6	Description=Right
AC2	Description=Room
CSV(VC4, VC5, VC6)	
CSV(AC2)	
Capture Scene #3	
VC7	
AC3	
Capture Scene #4	
VC8	
AC4	
Capture Scene #5	
MCC1(VC1, VC4, VC7)	SynchronizationID=1
	MaxCaptures=1
MCC2(VC2, VC5, VC8)	SynchronizationID=1
	MaxCaptures=1
MCC3(VC3, VC6)	MaxCaptures=1
MCC4(AC1, AC2, AC3, AC4)	SynchronizationID=1
	MaxCaptures=1
CSV(MCC1, MCC2, MCC3)	
CSV(MCC4)	

Figure 1: Example Synchronization Identity MCC Attribute Usage

Capture Scene #1	
VC1	Description=Left
VC2	Description=Center
VC3	Description=Right
AC1	Description=Room

Capture Scene #1	
CSV(VC1,VC2,VC3)	
CSV(AC1)	
Capture Scene #2	
VC4	Description=Left
VC5	Description=Center
VC6	Description=Right
AC2	Description=Room
CSV(VC4,VC5,VC6)	
CSV(AC2)	
Capture Scene #3	
VC7	
AC3	
Capture Scene #4	
VC8	
AC4	
Capture Scene #5	
MCC1(VC1,VC4,VC7)	SynchronizationID=1 MaxCaptures=1
MCC2(VC2,VC5,VC8)	SynchronizationID=1 MaxCaptures=1
MCC3(VC3,VC6)	MaxCaptures=1
MCC4(AC1,AC2,AC3,AC4)	SynchronizationID=1 MaxCaptures=1
CSV(MCC1,MCC2,MCC3)	

Capture Scene #1
CSV(MCC4)

Table 1: TEST Example Synchronization Identity MCC Attribute Usage

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