**3GPP TSG- Meeting #132 S4-250933**

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  |  | **CR** |  | **rev** |  | **Current version:** |  |  |
|  | | | | | | | | |
| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | |
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| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network |  | Core Network | **X** |

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|  | | | | | | | | | | |
| ***Title:*** | Further updates to Annex A | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Panasonic Holdings Corporation, Nokia | | | | | | | | | |
| ***Source to TSG:*** | S4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** |  | | | | |  | ***Date:*** | | |  |
|  |  | | | |  | |  | | |  |
| ***Category:*** |  |  | | | | | ***Release:*** | | |  |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change in an earlier release)* ***B*** *(addition of feature),* ***C*** *(functional modification of feature)* ***D*** *(editorial modification)*  Detailed explanations of the above categories can be found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) … Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)  Rel-20 (Release 20)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | Practical feature (context adaptation ) is missing for which Annex A does not specify the RTP handling. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | RTP handling is added. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Lack of context adaptation may lead to suboptimal immersive quality. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | A.3, A.4 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

CHANGE 1

Annex A (normative):  
RTP Payload Format and SDP Parameters

**….**

### A.3.5.5 Supported PI data types

Supported PI types are listed in tables A.3.5.5-1 and A.3.5.5-2 and described in the following subsections. Table A.3.5.5-1 lists PI types for forward direction signalling. Table A.3.5.5-2 lists additional PI types.

Table A.3.5.5-1 : Supported forward direction PI types in an IVAS session.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Type bits** | **Forward direction PI type** | **Description** | **SDP indication** | **Size (bytes)** | **Described in clause** |
| 00000 | SCENE\_ORIENTATION | Describes the orientation of a spatial audio scene in unit quaternions. | fsco | 8 | A.3.5.6.1.2 |
| 00001 | DEVICE\_ORIENTATION\_COMPENSATED | Describes the orientation of a device in unit quaternions. The orientation is compensated in the transmitted audio. | fdoc | 8 | A.3.5.6.1.3 |
| 00010 | DEVICE\_ORIENTATION\_UNCOMPENSATED | Describes the orientation of a device in unit quaternions. The orientation is not compensated in the transmitted audio. | Fdou | 8 | A.3.5.6.1.3 |
| 00011 | ACOUSTIC\_ENVIRONMENT | Selects and optionally describes the acoustic environment. | Face | 1,5 or 8 | A.3.5.6.2 |

**Table A.3.5.5-1A: Supported reverse direction PI types in an IVAS session.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Type bits** | **Reverse direction PI type** | **Description** | **SDP indication** | **Size (bytes)** | **Described in clause** |
| 11011 | PLAYOUT\_CONFIGURATION\_STATUS | Describes the change in Playout Configuration Status | rpcs | 1 | A.3.5.7.1 |

Table A.3.5.5-2: Additional PI types in an IVAS session.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Type bits** | **PI type** | **Description** | **SDP indication** | **Size (bytes)** |
|  | Reserved | - | - | - |
| 11111 | NO\_PI\_DATA | Indicates an empty PI data frame. | nopi | 0 |

NO\_PI\_DATA PI data type can be used to indicate empty PI data sections. The PM marker bits for a NO\_PI\_DATA PI data type shall be set as PM=10, see table A.3.5.2-2. For example, if an IVAS RTP payload includes multiple audio frames, and some of the audio frames do not have associated PI data, NO\_PI\_DATA PI type can be used.

CHANGE 2

### A.3.5.7 Reverse direction PI data types



#### A.3.5.7.1 Playout Configuration Status

A receiving device may signal its current terminal status to the sender by transmitting Playout Configuration Status (PCS) PI data. This PCS PI data conveys the receiver’s present playout context—by signalling desired playout configuration for example mono, stereo, binaural.Based on this information, the sender may respond with a bitstream adapted to the receiver's updated configuration. The size of the PCS PI data is 1 byte, with PCS value accounting for 3 bits and remaining 5 bits are zero padded to ensure byte alignment. The structure of the PCS PI data frame is illustrated in Figure-A.3.5.7.1, and the PCS bit field definitions are defined in Table-A.3.5.7.1.

0 1 2 3 4 5 6 7  
+-+-+-+-+-+-+-+-+  
| PCS |0 0 0 0 0|  
+-+-+-+-+-+-+-+-+-+

**Figure-A.3.5.7.1: PCS PI data frame**

**Table-A.3.5.7.1 - PCS bit field definitions**

|  |  |
| --- | --- |
| **PCS** | **Definition** |
| **000** | Mono |
| **001** | Stereo |
| **010** | Binaural (without room effect) |
| **011** | Binaural (with room effect) |
| **100** | MC (planar) |
| **101** | MC (with elevation) |
| **110** | SBA |
| **111** | External |

END OF CHANGES