**3GPP SA4#114-e meeting *S4-210798***

**May 18th – 28th 2021**

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| *CR-Form-v12.0* |
| **DRAFT CHANGE REQUEST** |
|  |
|  | **26.114** | **CR** |  | **rev** | **-** | **Current version:** | **17.0.0** |  |
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| *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:***  | S4-210798 ITT4RT: Presentation Overlay |
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| ***Source to WG:*** | KPN N.V. |
| ***Source to TSG:*** | SA4 |
|  |  |
| ***Work item code:*** | ITT4RT |  | ***Date:*** | 2021-05-12 |
|  |  |  |  |  |
| ***Category:*** | **B** |  | ***Release:*** | Rel-17 |
|  | *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 canbe 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-12 (Release 12)**Rel-13 (Release 13)Rel-14 (Release 14)Rel-15 (Release 15)Rel-16 (Release 16)* |
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| ***Reason for change:*** | How to handle presentation type content in ITT4RT is on requrement of the work item and currently not sufficiently addresed in 26.114 |
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| ***Summary of change:*** | Proposed a new section Y.6.4.4. to add functionality and message flows to handle signalling, detection and replacement of presentation content in the 360-degree content.  |
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| ***Consequences if not approved:*** | How to handle presentation type content in ITT4RT is not poperly addressed. |
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| ***Clauses affected:*** | Y.6.4.4. |
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|  | **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:*** |  |
| ***56***  |  |
| ***This CR's revision history:*** |  |

**===== 1st CHANGE =====**

## Y.6.4.4 Captured Content Replacement

To prevent degradation of presentation material (e.g., slides, screen share, video, notes) that may be captured from a display (screen or projector) with a 360-degree camera, the captured content in the 360-degree video can be replaced with the original presentation material. Such replacement implies a decoding, replacement of the captured presentation content at the display coordinates in the 360-degree video and finally encoding the new 360-degree video (i.e., with the same encoding parameters as the original 360-degree video). The replacement could either be performed in the ITT4RT-Tx client which is sending the 360-degree video or in the ITT4RT-MRF.

When replacement is to be performed, the availability of the original presentation content should be signalled by the source of the content to the client performing the replacement (i.e., the ITT4RT-Tx client or the ITT4RT-MRF) using the SDP “a=content:slides” attribute [81]. If no overlay parameters are given by the source of the original presentation content (e.g., configuration in terms of sphere-relative overlay coordinates as defined in Y.6.4.3.2), the client performing the replacement should determine an appropriate configuration for performing the content replacement in the 360-degree video.

When replacement is to be performed by the ITT4RT-MRF, the ITT4RT-Tx client should include the “a=3gpp\_360video\_replacement” attribute in its SDP offer or answer to indicate that content captured in the 360-degree video can be replaced. If the ITT4RT-MRF supports content replacement and receives an SDP offer with the “a=3gpp\_360video\_replacement” attribute, then ITT4RT-MRF should include the “a=3gpp\_360video\_replacement” attribute in its SDP answer and perform content replacement once the original presentation content is available from the source of the content. If the ITT4RT-Tx client includes the “a=3gpp\_360video\_replacement” attribute in its SDP offer but does not receive the attribute in the SDP answer then the ITT4RT-Tx client may send the original presentation content using a different process than ITT4RT-MRF replacement (e.g., the presentation can be sent as an overlay as defined in Y.6.4., or inserted into the 360-degree video by the ITT4RT-Tx client as described above). If the ITT4RT-MRF does not receive the “a=3gpp\_360video\_replacement” attribute in an SDP offer it shall not include the attribute in its SDP answer. If the replacement configuration of the content is known to the ITT4RT-Tx, the client may include the configuration as optional sphere-relative overlay coordinates (defined in Y.6.4.3.2) in the SDP offer/answer while negotiating the stream with the ITT4RT-MRF.

The ABNF syntax for the replacement attribute is as following:

replacement-attrib = “a=3gpp\_360video\_overlayreplacement [: sphere\_relative\_overlay\_config]”

Note: The main reason of the “a=3gpp\_360video\_overlayreplacement” attribute is to distinguish who can perform the replacement in case both the 360-degree capture client and the MRF/MCU support replacement.