**3GPP TSG-S4 Meeting # 128 S4-240932**

**Jeju, Korea, May 20th - 24th, 2024**

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| *CR-Form-v12.2* |
| **CHANGE REQUEST** |
|  |
|  | **26.264** | **CR** |  | **rev** |  | **Current version:** | **1.0.0** |  |
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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:***  | CR on Scene Description as Entry Point |
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| ***Source to WG:*** | Qualcomm Inc. |
| ***Source to TSG:*** | S4 |
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| ***Work item code:*** | IBACS |  | ***Date:*** | 14th May 2024 |
|  |  |  |  |  |
| ***Category:*** | B |  | ***Release:*** | Rel-18 |
|  | *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-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)Rel-19 (Release 19)* |
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| ***Reason for change:*** | This pCR clarifies the usage of the scene description for AR calls. It removes the clause on split rendering as it is considered out of scope and will be handled in Rel-19 under the SR\_IMS work item. It also defines the format for the pose and action information. |
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| ***Summary of change:*** |  |
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| ***Consequences if not approved:*** |  |
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| ***Clauses affected:*** | 6.4 |
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|  | **Y** | **N** |  |  |
| ***Other specs*** |  |  |  Other core specifications  | TS/TR ... CR ...  |
| ***affected:*** |  |  |  Test specifications | TS/TR ... CR ...  |
| ***(show related CRs)*** |  |  |  O&M Specifications | TS/TR ... CR ...  |
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| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

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| **First Change** |

## 6.4 Scene descriptions

An AR-MTSI client in terminal that is a compliant device type of TS 26.119 shall support the capabilities requirements for scene description as described in clause 10 of TS26.119 for its respective device type.

When used in an AR call, the scene description shall be the entry point to the AR session (after establishment of a regular call/conference) and shall be exchanged over the data channel as described in [TS26.114]. The Scene Description is exchanged over a stream with a stream id in the range 1 to 1000 and shall be provided by the AR AS through the MF/MRF to the AR-MTSI client. No web application shall be downloaded in this case.

Based on the information in the scene description, the UE may decide to add additional media streams through a re-INVITE. However, at least the RTP session for the voice of every participant should be present and should be linked to an audio source in the scene description.

NOTE: support for advanced audio codecs, such as IVAS, in scene description is FFS.

Each participant should be associated with their own camera node, identified through the node name, which is also provided as part of the SDP through the “sd-nodes” attribute of media session of the data channel that carries the scene description.

The “sd-nodes” attribute shall conform to the following ABNF syntax:

sd-nodes = “a=sd-nodes:” SP participant-label SP 1\*(node-name [“,”])
 participant-label = char-val
 node-name = char-val

The AR MF/MRF should apply pose updates from the received pose information of each participant to their respective camera nodes, as negotiated by the SDP sd-nodes attribute.

A scene description of an AR session may be sent from the AR MF/MRF to the AR-MTSI clients in terminal.

An AR MF/MRF that supports scene description shall support:

* The capability to generate a scene description file that conforms to the SD-Rendering-glTF-Core capability as defined in [TS26.119].
* The capability to generate and update a scene description file that conforms to the SD-Rendering-glTF-Ext1 as specified in [TS26.119].

An AR MF/MRF that supports scene description may additionally support the generation of scene description files and updates that conform to the SD-Rendering-glTF-Ext2 capabilities as defined in [TS26.119].

An AR MF/MRF that supports scene description may additionally support the generation of scene description files and updates that conform to the SD-Rendering-glTF-Interactive capabilities as defined in [TS26.119].

In addition, an AR MF/MRF that supports scene description shall support the referencing of RTP streams in the scene description through the MPEG\_media extension as defined in [ISO23090-14]. The external media shall be RTP media streams supported by an AR-MTSI client and signalled in the SDP.

When scene description is not used as the entry point, the scene description shall be sent by the AR MF/MRF to the AR-MTSI client in terminal over the application data channel. The type of the message shall be set to “**urn:3gpp:ar:v1:sd**”.

An AR MF/MRF that supports scene descriptions should create and distribute the scene for an AR call with audio and video streams based on the visualization space, viewer position and AR media properties. The AR MF/MRF should create the scene description for each participant (AR-MTSI client in terminal) such that the shared experience is symmetrical for the different users in the call, e.g., to maintain relative position of users and objects.