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**Title: Presentation of Specification/Report to TSG:  
TR26.996, Version 1.0.0**

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**Abstract of document:**

An essential architectural characteristic of XR clients is the reliance on a functional split between a set of composite pre-renderers that are implemented as parts of a presentation engine and a set of post-rendering operations implemented on an End Device prior to final output. Such kind of split rendering may be a necessity if the End Device is power constrained or limited in computational power. However, split rendering is not precluded from other End Devices that do not have such constraints.

The functional split assumed in split renderer architectures is a result of stringent implementation and operational requirements applicable for rendering of XR media on XR devices. For head-tracked immersive audio, the need to rely on a split renderer architecture, may depend on various factors among which the round-trip latency on the interface between the renderer in the presentation engine and the lightweight End Device is a decisive parameter. There are scenarios where this latency may be substantial which may make preferable a split rendering approach with pose correction in the End Device for binaural audio in a similar way as for video unless decoding and head-tracked binaural audio rendering on the lightweight End Device does not exceed its strict complexity constraints. In other scenarios, that latency may be sufficiently low, in which case the head-tracked binaural rendering can exclusively be done in the presentation engine. It is notable that the transmission over the interface may generally be bit rate constrained and dependent on the specific physical interface properties.

A discussion of relevant split rendering scenarios is provided in TR 26.865, together with general design guidelines for immersive audio split rendering systems and specific design constraints and performance requirements for split rendering solutions for the 3GPP IVAS. The latter are the basis for the split rendering feature of the IVAS codec specified in TS 26.253. ISAR split rendering solutions applicable even for other coding systems and renderers are specified in TS 26.249, whereby the split rendering solutions of the IVAS codec constitute a baseline set of the provided split rendering solutions.

The present TR contains a characterization of the solutions specified in TS 26.249 and specifically the following topics:

- Audio quality characteristics of the ISAR baseline solutions

- Physical and functional solution properties of the ISAR baseline solutions

**Changes since last presentation to SA Meeting:**

First presentation to SA.

**Outstanding Issues:**

None.

**Contentious Issues:**

None.

Change history of this document:

1999-11-17: original issue

2007-09-06: removal of references to Working Groups; bring names of TSGs up to date; correction of typo

2015-01-06: adds tdoc header & removes redundant information below