

Media Handling Extensions for IMS-based Telepresence

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Current State of TS 26.223

- During Release 13, SA4 completed the IMS_TELEP_S4 work item to specify media handling aspects of IMS-based telepresence.
- Work resulted in a new normative specification, 3GPP TS 26.223 that contains various media handling requirements for a telepresence UE (TP UE).
- TS 26.223 v13.0.0 addresses the following TP UE requirements:
 - media codecs (speech, video, text)
 - media configuration
 - data transport
 - audio/video parameters
 - interworking
 - jitter buffer management
 - SDP and CLUE usage examples

Existing Technical Gaps in TS 26.223

Audio/Video Parameters:

- The audio / video parameters were profiled from CLUE in a rather loose manner in TS 26.223 and it is not clear which parameters are mandatory, recommended or optional.
- Now that IETF CLUE specs are in more stable condition, timing would be appropriate to set further requirements around these profiles.

End-to-End QoE Requirements

- End-to-end QoE requirements for IMS-based telepresence were adopted from ITU-T but were not carefully considered for 3GPP-specific deployments.
- It is necessary to refine these requirements to better fulfil 3GPP service requirements.

Media Adaptation and QoS Handling:

- There are currently no media adaptation or QoS handling guidelines specified for TP UEs, while generally for all other services in SA4's responsibility (e.g, MTSI, PSS, MBMS, etc.) such guidelines exist.

Existing Technical Gaps in TS 26.223

Interworking with MS-MTSI:

- MMCMH work item in Rel-13 introduced a new type of MTSI client known as Multi-Stream MTSI (MS-MTSI)
- Interworking between TP UE and MS-MTSI clients is currently not specified:
 - When a TP UE interacts with an MTSI client, it may fall back to plain MTSI (upon failure of CLUE negotiation) and may not negotiate MS-MTSI capabilities
 - No procedures to negotiate MS-MTSI capabilities is described as part of the interaction between TP UE and MTSI client
 - If TP UE supports MS-MTSI client capabilities, further requirements or recommendations can be set to enable the negotiation of MS-MTSI capabilities between TP UE and MS-MTSI client

Alignment with CLUE and ITU-T specifications

- Both IETF CLUE and ITU-T telepresence specifications were moving targets during the course of the Rel-13 work on IMS_TELEP_S4. CLUE work is now in more stable condition, and ITU-T work is still progressing
- Continuous alignment is necessary and can be done as part of Rel-14 work

Proposed Work in 3GPP SA4

- New work is proposed on the following media handling extensions of IMS-based telepresence:
 - Improvements on the audio video parameter specification indicating mandatory / recommended / optional support for various usages or profiles
 - Extension of interworking requirements considering multi-stream MTSI (MS-MTSI) clients as well as related non-3GPP telepresence systems (e.g., ITU-T telepresence)
 - Recommendations and guidelines on end-to-end QoS handling and media adaptation
 - Updates to align with the latest IETF CLUE and ITU-T Telepresence specifications
 - Refinements on end-to-end QoE requirements (e.g., audio / video delay and synchronization aspects) considering 3GPP-specific deployment scenarios
 - Further profiling and guidelines on SDP and CLUE usage, e.g., for spatial audio
 - Potential updates on codec aspects to better fulfil the target performance requirements