

3GPP TSG RAN Rel-19 workshop
Taipei, June 15 - 16, 2023

Agenda Item : 5
Source : InterDigital, Inc.
Title : Views on XR for Rel-19
Document for : Discussion

CREATE
CONNECT
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Enabling advanced XR use cases

Justification

- R18 provides support for baseline XR use cases such as cloud gaming, VR, smartphone-based AR
- R19 and beyond to consider advanced and demanding XR use cases which are more AR-centric, outdoor and mobile
 - Example: Localized Mobile Metaverse Service, Synchronized predictive avatars, Virtual humans in metaverse
- Advanced XR use cases and requirements are characterized by:
 - *Multi-modality*
 - *New traffic patterns and stringent target QoS*

More stringent values for existing requirements

- Ultra high resolution and high refresh rate (4k->8k, 120 fps->240 fps)
- Lower E2E latency (10ms -> 1 to 5ms)
- Lower jitter (8ms -> under 2ms)
- Ultra high reliability (99% -> 99.999%)

New Requirements for R19+

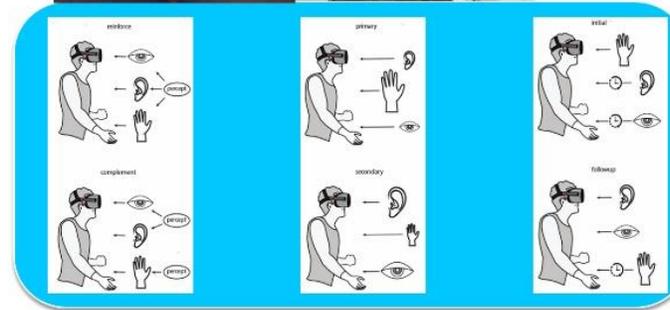
- Low motion-to-photon latency (< 20ms)
- Low synchronization delay (12 ms for audio-visual-tactile stimuli)
- Multiple correlated flows in UL & DL
- Medium to high mobility: Guaranteed QoS/QoE continuity



Localized Mobile Metaverse Services offering relevant information



Round-trip latency



synchronisation thresholds of audio, video and tactile



Virtual humans in metaverse

Proposed XR focus for R19

Proposed R19 scope

- Study RAN impacts of new / more stringent requirements
 - Use new traffic models for Video with RTP/WebRTC, haptic feedback
- XR awareness and scheduling enhancements
 - Flexible differentiation and prioritization of PDU sets
 - Synchronization across multiple correlated flows
- Mobility and service continuity enhancements
 - Service/experience continuity when supporting multi-modal flows
- Scheduling enhancements for enabling coordinated UL+DL transmissions of PDU sets within motion-to-photon (MTP) latency (if time allows for haptics use case)

Possible additional objectives

- RRM enhancements (e.g. XR-aware measurements)

