

XR: Service Evolution and Support – View on XR for RAN Rel-19

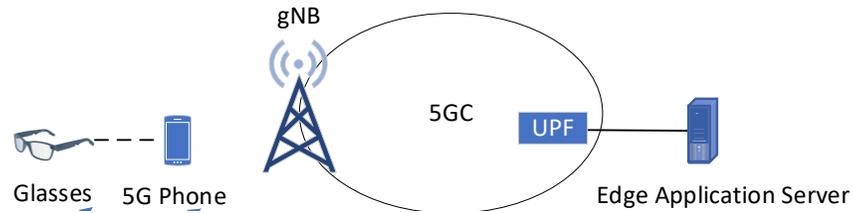
Futurewei Technologies, Inc.



Rel-19 XR Service Evolution and Support

Support tethered XR UEs

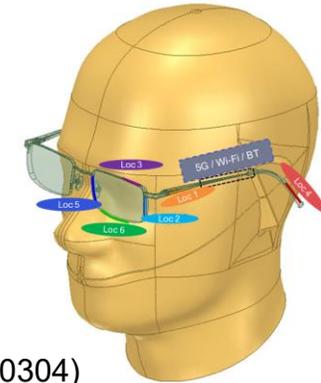
- SL enhancements for tethering
- Segment-wise and E2E QoS handling



System Architecture (TR 26.806)

Study XR UEs with 2Rx antennas

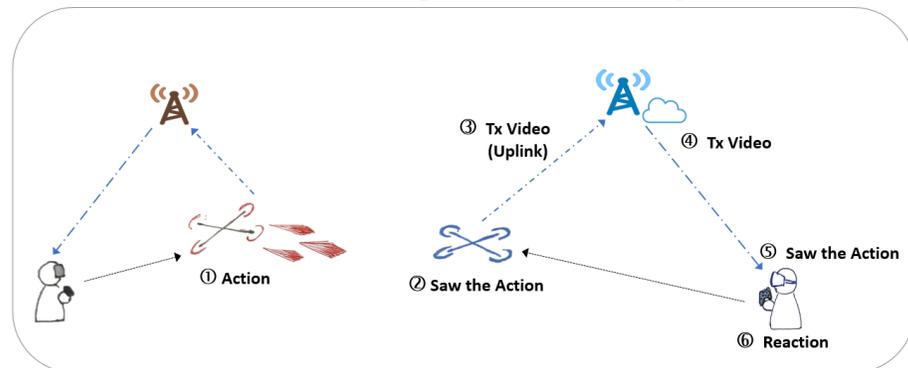
- Early identification
- Access restriction
- Prevention of misuse (UE form factor & capability verification)
- Mitigation of performance degradation as necessary
 - Coverage
 - Radio efficiency
 - Capacity



(RP-230304)

Support mobility for XR

- Use cases: drone racing, remote driving



Support multi-modal services

- Coordinated transmission for multi-modal flows of same UE
- Coordinated transmission for multi-modal flows of different UEs



(HMD and gloves by NASA 1980s)

Rel-18 (possibly) deferred items for Rel-19

- SDAP enhancements
 - If sub-QoS flow is supported by SA2 in Rel-19, sub-QoS flow to DRB mapping to support differential QoS handling among different types of PDU Sets or between PDU Sets and non-PDU-Set PDUs in same QoS flow.
- PDCP enhancements
 - Selective PDCP duplication and/or split bearers based on PDU Set Info to further improve QoS handling.
 - PDCP control PDU for notifying about PDU discarding.
 - PDCP Status Report to facilitate PDCP retransmission to meet PSER requirement.
- RLC enhancements
 - Procedures for handling PDU discarding.
- MAC enhancements
 - LCP enhancement with remaining time; BSR/CG enhancement deferred from Rel-18.

Additional items to be studied in Rel-19

- SL enhancements for tethering link, e.g., for glasses-type of XR UEs
- Support mobility for XR, e.g., up to 120-350 kmph
 - Support lossless HO with large volume of delay-sensitive data.
- Coordinated handling of multi-modal flows of a same UE or different UEs
- Study XR UEs with 2Rx antenna branches after RAN plenary discussion
 - Early identification
 - Access restriction
 - Prevention of misuse (UE form factor & capability verification)
 - Mitigation of performance degradation as necessary
 - Coverage, radio efficiency, capacity
- Consider inter-PDU-Set dependency info to optimize RAN handling, e.g., prioritization or discarding

Thank You.

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