



Agenda Item : 4.2

Source : InterDigital

Title : XR Enhancements for R18

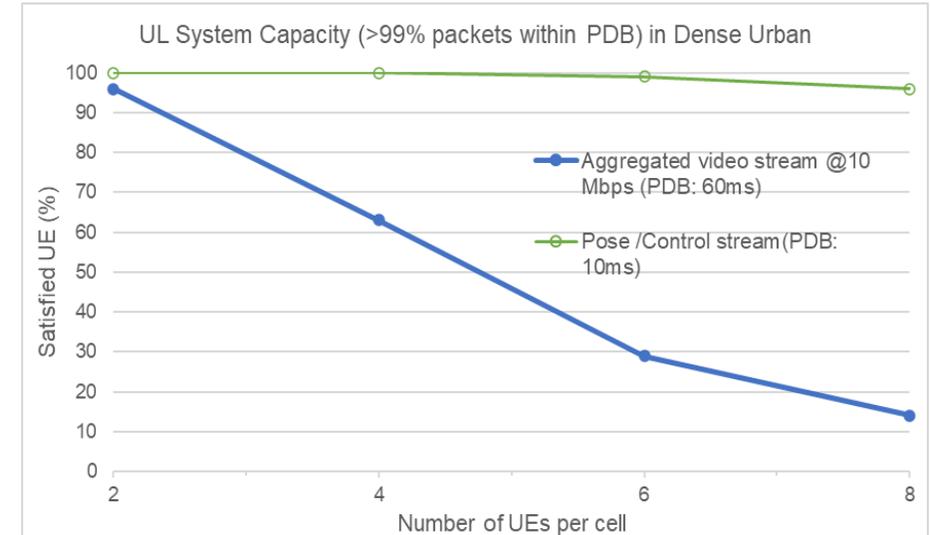
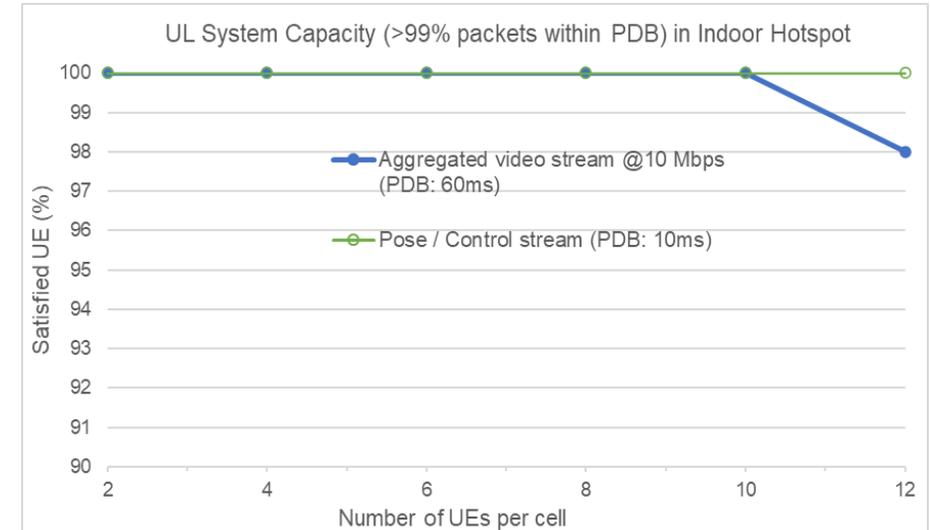
Document for : Discussion and Decision

RAN Enhancements for XR



Justification:

- Rel-17 SI on XR evaluates the performance of several XR applications using a framework consisting of different traffic models and evaluation methodologies:
 - Evaluation results indicate that the capacity can be severely limited when supporting data stream requiring high data rate with strict delay bounds and multiple data streams per application
- Rel-18 WI to support enhancements for handling variety of XR applications, including VR, AR and Cloud Gaming



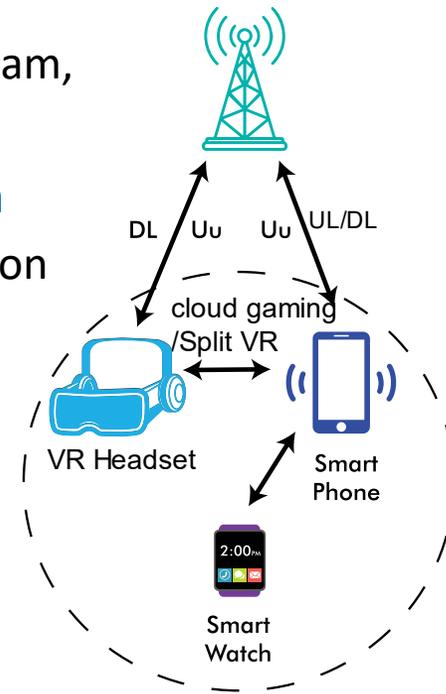
In all deployment scenarios, the AR aggregated video stream (@10Mbps) is the bottleneck of the UL system capacity (in a multi-stream model)

RAN Enhancements for XR

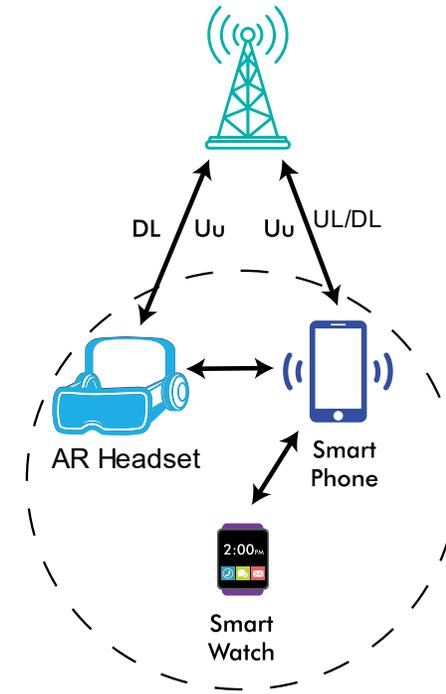


Potential Rel-18 WI scope for XR:

- Granular QoS differentiation
 - Flexibility to schedule data at different granularities (e.g. per data stream, per application data unit, per PDU)
- Synchronized transmission of multiple data streams per-application
 - Transmission of data in different bearers/links with time synchronization considerations
- XR device power efficiency improvement
 - Solutions leveraging on awareness of XR traffic pattern
- RAN awareness of XR application
 - UE indication of assistance information to RAN for meeting QoS (e.g. motion-to-photon RTT latency)
- Support for extended coverage, capacity, and mobility for XR
 - Low latency and robust link/beam (re)selection and service continuity



Same End User
VR and Cloud Gaming applications data streams



Same End User
AR application data streams