

Sidelink Relay Enhancements

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RAN2-led

3GPP TUs (Total w/ 9 meetings)			
RAN1	RAN2	RAN3	RAN4
6	18	3	9

SA/CT Dependency: **Yes**

Ensure service coverage & availability where service is to be consumed
 Enable new service consumption models with optimal routing e.g. local gaming, local data exchange
 Improve reliability. Full mobility support.

Objective I: Rel-17 left-overs [RAN1, 2, 4]

1. L2 UE-to-UE Relay
2. UE scheduling other UE

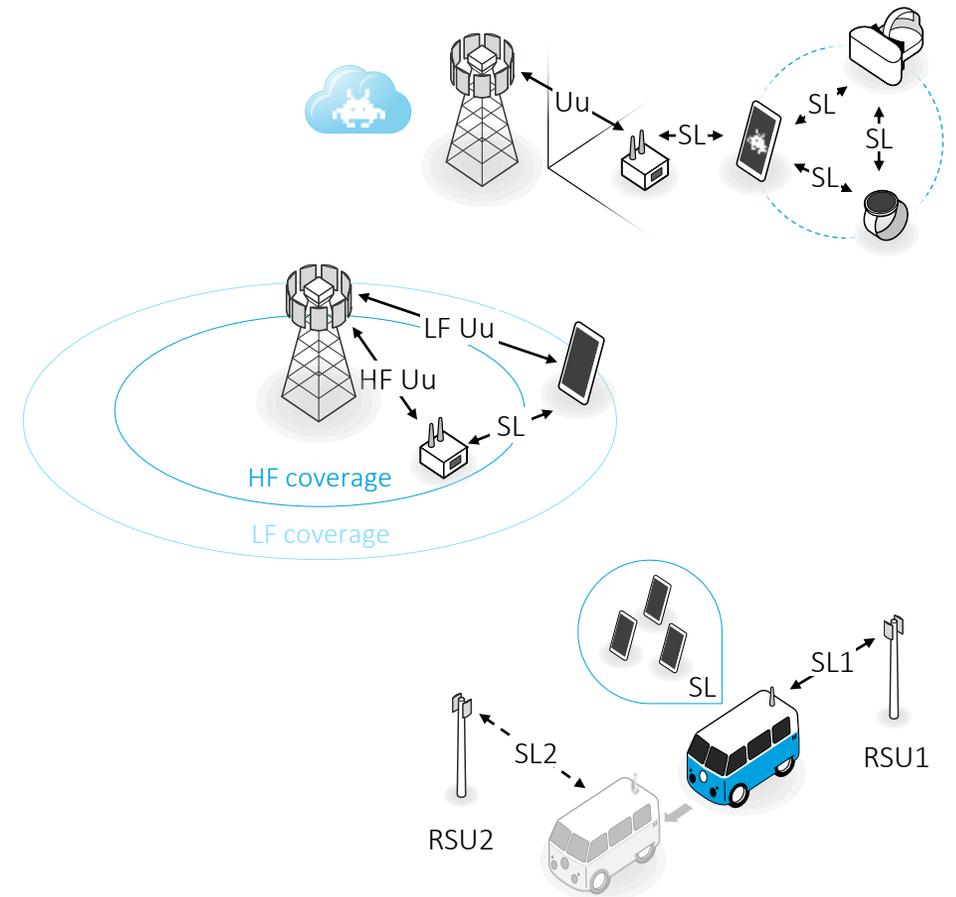
NOTE: no relay-specific impact anticipated for supporting unlicensed spectrum (see SL enhancements)

Objective II: Topology Enhancements [RAN2, 4]

1. Support for multi-hop
2. Support for multi-path (incl. PC5+PC5 and PC5+Uu)
3. Mobility of Remote UE between Relay UEs

Objective III: Mobile Sidelink Relays e.g. vehicle-mounted relays [RAN2, 3]

1. Group handover of Remote UEs with U2N Relay UE
2. "Resume in different cell" case for Relay UE in RRC_INACTIVE



Note: RSU node does not imply C-V2X

Sidelink Relay Enhancements

- Rel-17 leftovers
 - UE-to-UE relay: considerable interest in Rel-17, esp. for public safety use cases
 - Prioritise L2 architecture due to end-to-end security; we don't see a need for L3 UE-to-UE
 - UE scheduling other UE (discussed in Rel-16 in RAN1)
 - Clear applicability to relaying (the relay schedules its remote UEs)
 - We expect significant gains over using mode 2 for out-of-coverage UEs
- Topology enhancements
 - Multihop for deep coverage holes
 - Multipath to meet reliability requirements for demanding services (discussed in Rel-17 in RAN2)
 - Mobility of remote UE between relay UEs (discussed in Rel-17 in RAN2)
- Mobile relays
 - Group handover and “resume in different cell” case
 - These are fundamentally similar cases, requiring transfer of the relay and remote contexts between gNBs

Thank You!