

3GPP TSG RAN Meeting #101

RP-231883

Bangalore, India, September 11-15, 2023

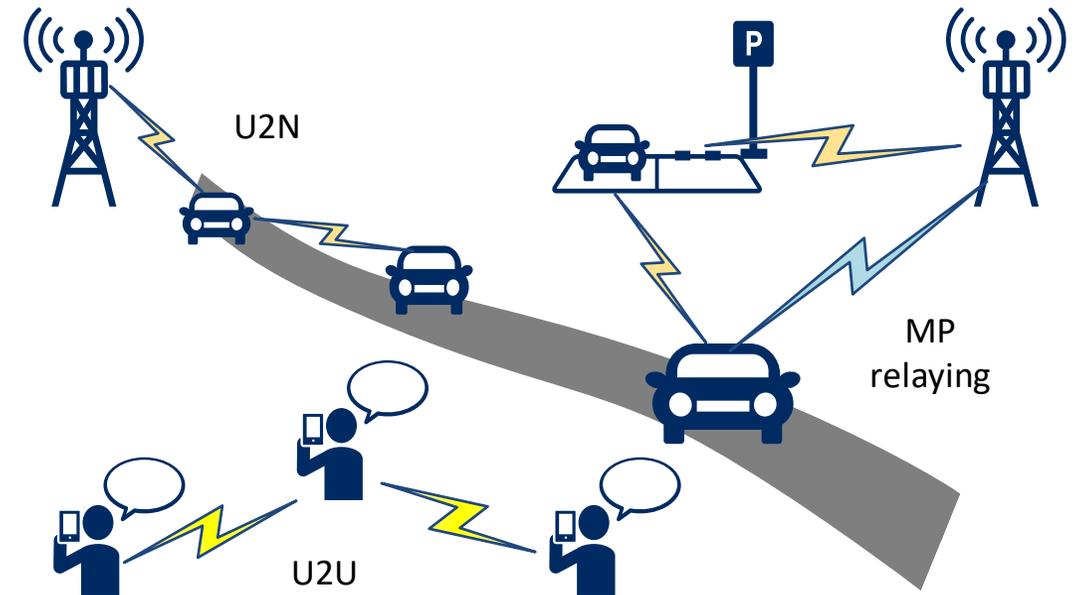
Agenda item: 8A.2.13.2 Sidelink (SL) Relay Enhancements

Sidelink Relay Enhancements

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Overview of sidelink relay enhancements

- ◆ Sidelink relay has been specified and enhanced in Rel-17 and Rel-18 respectively, which includes the following topics:
 - U2N SL-Relay
 - U2U SL-Relay
 - Multi-path(MP) relaying
- ◆ In Rel-19, these topics need to be further enhanced.



Sidelink relay enhancements

◆ Motivation

■ For U2N SL-Relay,

- Rel-17 restricts U2N to 1-hop only.
 - Coverage can be enhanced by adopting multi-hop relay.
- And only the basic procedure is designed for mobility.
 - Service continuity can be enhanced when condition based mobility and DAPS-like mechanism are used.
- Only unicast service is considered in both Rel-17 and Rel-18.
 - Remote UE may also interest in broadcast services.
- Both intra-gNB and inter-gNB are considered.

■ For U2U SL-Relay,

- Rel-18 restricts U2U to 1-hop only.
 - Coverage can be enhanced by adopting multi-hop relay.

■ For multi-path relaying

- It is designed on top of U2N relay with only one direct path and one indirect path.
 - Two indirect paths are useful to OOC Remote UE.
- Rel-18 restricts multi-path relaying of U2N to intra-gNB only.
 - Relay UEs served by another gNB may also be selected for the indirect path. And inter-gNB issue has been specified for U2N SL-relay.

Sidelink relay enhancements

◆ Considerations for Rel-19

■ For U2N

- Specify necessary enhancements for mobility of U2N SL-Relay.
 - Condition based mobility and DAPS-like mechanism for Remote UE.
 - Group based mobility.
- Specify necessary enhancements for multi-hop U2N SL-Relay.
- Specify necessary enhancements for group-cast and broadcast service via U2N SL-Relay.

■ For U2U

- Specify necessary enhancements for multi-hop U2U SL-Relay.

■ For multi-path relaying

- Specify necessary enhancements for multi-path relaying of U2N SL-Relay.
 - Inter-gNB mobility.
 - Dual indirect links and more than 2 path including one direct path.

Summary

- ◆ For the scope of Rel-19 sidelink, we propose to include the following topics:
 - Topics to be treated with high priority
 - Specify necessary enhancements for multi-hop U2N SL-Relay.
 - Specify necessary enhancements for multi-hop U2U SL-Relay.
 - Specify necessary enhancements for multi-path relaying of U2N SL-Relay.
 - Topics to be treated if time permits
 - Specify necessary enhancements for mobility of U2N SL-Relay.
 - Specify necessary enhancements for group-cast and broadcast service via U2N SL-Relay.

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