**3GPP TSG-RAN WG2 Meeting #126 R2-240XXXX**

**Fukuoka, Japan, 20th – 24th May 2024**

**Agenda item: 7.9.3**

**Source: Huawei, HiSilicon**

**Title: [AT126][408][Relay] Relay RRC proposals with ASN.1 impact (Huawei)**

**Document for:**  **Discussion**

# 1. Introduction

This paper is to trigger collection of companies views on the papers having potential ASN.1 impacts before the ASN.1 freezing to determine if changes are needed:

* [AT126][408][Relay] Relay RRC proposals with ASN.1 impact (Huawei)

 Scope: F2F offline to check ASN.1 proposals on Rel-18 relay and determine if changes are needed. Critical proposals without ASN.1 impact can be checked if time permits.

 Intended outcome: Report to CB sessionin R2-2405876

 Schedule: Wednesday 2024-05-22 1700-1800 in Brk2

 Deadline: Thursday 2024-05-23 1000 JST

# 2. Discussion

During the online discussion in the SL Relay session Tuesday, there were some papers with ASN.1 impacts which could not be discussed/concluded online due to shortage of time. Hence an offline discussion was allocated to collect company views on the proposals in the papers to converge on these points as much as possible. If the time permits we can also look at the other proposals without ASN.1 impacts

## 2.1 Open points for U2U

**Corrections on UE capability reporting in SUI for L2 U2U relay**

For source remote UE in connected state, it first sends SUI to network including E2E QoS info and E2E UE capability received from the target remote UEs, so that netwok can provide E2E configuration based on that. After the source remote UE obtains the split QoS from relay UE, it needs to send SUI to network including per-hop QoS info and per-hop UE capability received from the relay UE, so that network can provide per-hop configuration.

In R2-2405237 it is discussed that in the existing SUI message from the source L2 U2U Remote UE, in the SL-TxResourceReqL2-U2U-r18 IE as shown below, a list of E2E connections (each one is identified by target U2U Remote UE ID) share the same first hop sidelink. The sl-CapabilityInformationSidelink-r18 is contained to indicate the UE capability of the L2 U2U Relay UE, while for each E2E connection indicated by the target L2 U2U Remote UE ID, there is no way to include the E2E capabilities. Hence R2-2405237 proposes to clarify that the sl-CapabilityInformationSidelink-r18 in the SUI message indicates the UE capability of the L2 U2U Relay UE. And add a new IE to indicates the UE capability of the target L2 U2U Remote UE indicated by the sl-TargetUE-Identity. Changes for these are shown in the text proposal in the below.

– *SidelinkUEInformationNR*

The *SidelinkUEinformationNR* message is used for the indication of NR sidelink UE information to the network.

Signalling radio bearer: SRB1

RLC-SAP: AM

Logical channel: DCCH

Direction: UE to Network

***SidelinkUEInformationNR* message**

-- ASN1START

-- TAG-SIDELINKUEINFORMATIONNR-START

SidelinkUEInformationNR-r16::= SEQUENCE {

 criticalExtensions CHOICE {

 sidelinkUEInformationNR-r16 SidelinkUEInformationNR-r16-IEs,

 criticalExtensionsFuture SEQUENCE {}

 }

}

<<<<<omitted>>>>>

SL-TxResourceReqL2-U2U-r18 ::= SEQUENCE {

 sl-DestinationIdentityL2-U2U-r18 SL-DestinationIdentity-r16 OPTIONAL,

 sl-TxInterestedFreqListL2-U2U-r18 SL-TxInterestedFreqList-r16,

 sl-TypeTxSyncListL2-U2U-r18 SEQUENCE (SIZE (1..maxNrofFreqSL-r16)) OF SL-TypeTxSync-r16,

 sl-CapabilityInformationSidelink-r18 OCTET STRING OPTIONAL,

 sl-U2U-InfoList-r18 SEQUENCE (SIZE (1.. maxNrofRemoteUE-r17)) OF SL-U2U-Info-r18 OPTIONAL,

 sl-RLC-ModeIndicationListL2-U2U-r18 SEQUENCE (SIZE (1.. maxNrofSLRB-r16)) OF SL-RLC-Mode-r18 OPTIONAL,

 ...

}

SL-U2U-Info-r18 ::= SEQUENCE {

 sl-U2U-Identity-r18 CHOICE {

 sl-TargetUE-Identity-r18 SL-DestinationIdentity-r16,

 sl-SourceUE-Identity-r18 SL-SourceIdentity-r17

 },

 sl-CapabilityInformationSidelinkRemote-r18 OCTET STRING

 sl-E2E-QoS-InfoList-r18 SEQUENCE (SIZE (1.. maxNrofSL-QFIsPerDest-r16)) OF SL-QoS-Info-r16 OPTIONAL,

 sl-PerHop-QoS-InfoList-r18 SEQUENCE (SIZE (1.. maxNrofSL-QFIsPerDest-r16)) OF SL-SplitQoS-Info-r18 OPTIONAL,

 sl-PerSLRB-QoS-InfoList-r18 SEQUENCE (SIZE (1.. maxNrofSLRB-r16)) OF SL-PerSLRB-QoS-Info-r18 OPTIONAL

}

<<<<<omitted>>>>>

-- TAG-SIDELINKUEINFORMATIONNR-STOP

-- ASN1STOP

**Rapporteur’s view – The changes proposed in R2-2405237 is nothing new but to align the understanding that E2E UE capability is used for E2E configuration.**

**Question 1– Do companies agree the intention in R2-2405237 to add the new field to indicate the UE capability of the target L2 U2U Remote UE?**

**Discussion:**

## 2.2 Open points for U2N

**Discussion on n3c-BearerAssociated**

R2-2405352 discusses that for

* UE configured with MP with N3C, UE could know a SRB is associated with N3C if moreThanOneRLC is used to configure the primary RLC entity of the split SRB
	+ **propose to remove n3c-BearerAssociated IE in SRB configuratiation**
* UE configured with MP with N3C, UE could know a DRB is associated with N3C if the DRB is configured without any Uu RLC entity, i.e. non-split DRB on N3C
	+ **suggest to remove n3c-BearerAssociated IE in DRB configuration**.
* UE configured with MP with N3C, for split DRB with primary path on direct path, UE could know whether the DRB is associated with N3C by the configuration of *moreThanOneRLC* and *duplicateState*.
	+ **suggest to remove n3c-BearerAssociated IE in DRB configuration**.

**Rapporteur’s view – N3C should be independent of the RLC entities. Explicit indication whether the radio bearer is associated with N3C is clearer in the specs and there is no benefit to remove the n3c-BearerAssociated IE. Hence this change is not critical.**

**Question 2– Do companies think the proposed change in R2-2405352 is needed/essential for the system to work?**

**Discussion:**

**RSRP thresholds for U2N relay selection and re-selection**

R2-2404733 discusses that RAN2 has made agreements to apply two different thresholds for SL-RSRP and SD-RSRP in X1/X2/Z1 measurement events and proposes to introduce the SD-RSRP thresholds in the relay reselection as well.

**Proposal 1: RAN2 to agree that the network may provide a separate SD-RSRP threshold for U2N relay reselection.**

**Rapporteur’s view – This is a Rel-17 correction, not for Rel-18. And for relay (re)selection, it can be left to the gNB implementation how to configure appropriate value for the threshold and the system can work with one configured threshold. Hence this change is not critical.**

**Question 3– Do companies think the proposed change in R2-2404733 is needed/essential for the system to work?**

**Discussion:**

## 2.3 Others if time permits

**(R2-2404328 CATT) Proposal 2: In subclause 5.8.17.4 of TS 38.331, for integrated discovery, when remote UE perform SL-RSRP filtering, the SL-RSRP filtering parameters should be used instead of using SD-RSRP filtering parameters.**

**(R2-2404252 OPPO) Proposal 1 In clause 5.8.9.1.2, remove the “according to association between User Info and L2 ID as specified in TS 23.304 [65],” for local ID pair setting procedure.**

**On SLRB index in SUI for L2 U2U relay**

* **(R2-2404663 Apple)Option 1: RAN2 concludes that L2 U2U Relay UE shall set the same value of SLRB index in SUI from what it received from remote UE. No more spec change is needed for this issue.**
* **(R2-2405238 Huawei, R2-2405628 Sharp) Option 2: : U2U relay UE is allowed to set a different value of the SLRB index in SUI. (It can be left to implementation how to maintain the association between SLRB-PC5-ConfigIndex and SLRB-Uu-ConfigIndex.)**

**(R2-2405351 ZTE) Relay UE traffic pattern reporting in UAI**

* **Proposal 1: For periodic U2U relay services, U2U relay UE could report sidelink traffic pattern for periodic resource allocation for the second hop transmission.**
* **Proposal 2: For U2U relay UE sidelink traffic pattern reporting, QoS flow ID is reused (with the modification of the field description) as an index in the scope of the relay UE to associate the traffic pattern with an SLRB-level QoS profile reported in SUI.**

# 4. Conclusion

# 5. Reference

[1] Session Chair Notes R2\_126-Positioning-Relay-2024-05-21-1640