Companies providing input to this email discussion are requested to leave contact information below.

|  |  |  |
| --- | --- | --- |
| **Company** | **Delegate name** | **Email address** |
| Lenovo | Lianhai | Wulh5@lenovo.com |
| ASUSTeK | Lider Pan | Lider\_Pan@asus.com |
| Qualcomm | Jianhua Liu | jianhua@qti.qualcomm.com |
| OPPO | Bingxue Leng | lengbingxue@oppo.com |
| Apple | Zhibin | Zhibin\_wu@apple.com |
| ZTE | Mengzhen Wang | Wang.mengzhen@zte.com.cn |
| Samsung | Weiwei Wang | ww1016.wang@samsung.com |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

# 2 Comments collection

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Company** | **Clause number** | **Original text in CR** | **Suggested modification or comments** | **Rapporteur response** |
| Lenovo | 6.3.2 | ***sl-IndirectPathMaintain***Indicates that the L2 U2N Remote UE keeps the PC5 connection with its connected L2 U2N Relay UE. | We agreed that an explicit network indication is introduced for direct addition/change/release to indicate remote UE to maintain the PC5 unicast link with the source relay UE during Rel-17 I2D/D2I path switch procedures.Therefore, we suggest to add ‘during direct path addition, direct path change or direct path release’, which will make it clear as follow.*Indicates that the L2 U2N Remote UE keeps the PC5 connection with its connected L2 U2N Relay UE during direct path addition, direct path change or direct path release.* | This seems already clarified in the NOTEs and the condition description of MP. |
| Lenovo | 6.3.5 | SL-IndirectPathAddChange-r18 ::= SEQUENCE { sl-IndirectPathRelayUE-Identity-r18 SL-SourceIdentity-r17, sl-IndirectPathCellIdentity-r18 CellIdentity, t421-r18 ENUMERATED {ms50, ms100, ms150, ms200, ms500, ms1000, ms2000, ms10000}, | Direct path addition is achieved by indirect-to-direct path switch procedure, where *sl-IndirectPathAddChange* is set to setup in the path switch command from target side. *If sl-IndirectPathMaintain is included, UE does not start T421 (see* 5.3.5.17.2.2*). In this case, T421 can be absent. So, T421 should be optional* | *Ok.* |
| Lenovo | 6.3.5 | ***sl-IndirectPathRelayUEIdentity***Indicates the L2 source ID of the L2 U2N Relay UE of SL indirect path. | *If IndirectPathMaintain is included in reconfigurationWithSync, it is used for direct path addition. Therefore, L2 source ID of the L2 U2N Relay UE should be same as source relay UE.*Indicates the L2 source ID of the L2 U2N Relay UE of SL indirect path. If *IndirectPathMaintain* is included in *reconfigurationWithSync,* L2 source ID of the L2 U2N Relay UE should be same as source relay UE. | *In general I agree. But the current procedural text seems not refer to this ID if the new indication is included, then without this sentence seems also fine.* |
| Lenovo | 6.3.2 | SL-PathSwitchConfig-r17 ::= SEQUENCE { targetRelayUE-Identity-r17 SL-SourceIdentity-r17, t420-r17 ENUMERATED {ms50, ms100, ms150, ms200, ms500, ms1000, ms2000, ms10000}, ...} | *Direct path release is achieved by direct-to-indirect path switch procedure, i.e. Rel-17 D2I procedure. If sl-IndirectPathMaintain is included in reconfigurationWithSync, UE does not start T420 (see 5.3.5.5.2). In this case, T420 can be absent. Thus, T420 should be optional.* | This is a R17 field, so I am afraid we cannot make it optional, but UE will not start T420 according to the procedural text. |
| Lenovo | 6.3.2 | ***targetRelayUE-Identity***Indicates the L2 source ID of the target L2 U2N Relay UE during path switch. | Indicates the L2 source ID of the target L2 U2N Relay UE during path switch. If *IndirectPathMaintain* is included in *reconfigurationWithSync,* L2 source ID of the L2 U2N Relay UE should be same as source relay UE. | *In general I agree. But the current procedural text seems not refer to this ID if the new indication is included, then without this sentence seems also fine.* |
| Lenovo | 5.8.9.3 | 3> send *NotificationMessageSidelink* to the peer L2 U2U Remote UE(s) of the end-to-end PC5 connection(s), in accordance with 5.8.9.10.3> initiate the end-to-end PC5 connection failure related actions as specified in 5.8.9.3a; | 5.8.9.3a-> 5.8.9.3b since it is performed by L2 U2U Relay UE. | *Ok* |
| Lenovo | 5.3.5.17.2.3 | 5.3.5.17.2.3 T421 expiry (Indirect path addition/change failure)The UE shall:1> if T421 expires; or1> if the (target) L2 U2N Relay UE (i.e., the UE indicated by *sl-IndirectPathRelayUE-Identity* in the received *sl-IndirectPathAddChange*) changes its serving PCell to a different cell from the target cell (i.e. the cell indicated by *sl-IndirectPathCellIdentity* in the received *sl-IndirectPathAddChange*) before path addition or change:2> if MCG transmission is not suspended:3> initiate the indirect path failure information procedure as specified in clause 5.7.3c to report indirect path addition/change failure;2> else:3> initiate the connection re-establishment procedure as specified in clause 5.3.7; | Rapporteur has the following comment in email. *Add a T421 stop condition in table 7.1.1 for reception of notification message. -> please note the specific condition is changed to upon indirect path failure procedure because T421 is stopped in that clause.*According to the input in [AT125][404], most companies think the following case has been supported already. i.e. the procedure for indirect path failure report is triggered upon reception of notification message when T421 is running. Then, UE stops T421 upon initiation of indirect path failure information procedure based on 5.8.9.10.4 and 5.7.3c.2. The related description for indirect path addition/change failure is missing. See my suggestion below. 5.3.5.17.2.3 T421 expiry (Indirect path addition/change failure)The UE shall:1. if T421 expires; or
2. upon reception of notificationMessageSidelink message when T421 is running.

1> if the (target) L2 U2N Relay UE (i.e., the UE indicated by *sl-IndirectPathRelayUE-Identity* in the received *sl-IndirectPathAddChange*) changes its serving PCell to a different cell from the target cell (i.e. the cell indicated by *sl-IndirectPathCellIdentity* in the received *sl-IndirectPathAddChange*) before path addition or change:2> if MCG transmission is not suspended:3> initiate the indirect path failure information procedure as specified in clause 5.7.3c to report indirect path addition/change failure;2> else:3> initiate the connection re-establishment procedure as specified in clause 5.3.7; | My understanding is that during the at meeting discussion, majority thinks the current procedural text can already cover this case, so the table can be updated accordingly. Not sure whether companies can accept to change the procedural text. On the other hand, what is the issue if we use the current procedural text:Upon initiating the procedure, the UE shall:1> if the procedure was initiated to report SL indirect path failure:2> reset the sidelink specific MAC of this destination;2> stop T421 if running;1> suspend indirect path transmission for all SRBs and DRBs;1> initiate transmission of the *IndirectPathFailureInformation* message in accordance with 5.7.3c.4; |
| ASUSTeK | 5.8.9.3a | The UE acting as NR sidelink L2 U2U Remote UE shall:1> upon detection of end-to-end PC5 connection failure due to per-hop PC5 link failure, in accordance with clause 5.4.3.3; or1> upon detection of end-to-end PC5 connection failure due to per-hop PC5 link release, in accordance with clause 5.4.3.5; or… | There are a trigger from 5.8.9.3 and a trigger from 5.8.9.5, which were not included in 5.8.9.3a. We propose the following modification:The UE acting as NR sidelink L2 U2U Remote UE shall:1> upon detection of end-to-end PC5 connection failure due to per-hop PC5 link failure, in accordance with clause 5.4.3.3 or 5.8.9.3; or1> upon detection of end-to-end PC5 connection failure due to per-hop PC5 link release, in accordance with clause 5.4.3.5 or 5.8.9.5; or… | Thanks. 5.4.3.3 is replaced with 5.8.9.3, and 5.4.3.5 is replaced with 5.8.9.5. |
| ASUSTeK | 5.8.9.3b | The UE acting as NR sidelink L2 U2U Relay UE shall:1> upon detection end-to-end PC5 connection failure due to per-hop PC5 link failure, in accordance with clause 5.4.3.3; or1> upon detection end-to-end PC5 connection failure due to per-hop PC5 link release, in accordance with clause 5.4.3.5; or… | There are a trigger from 5.8.9.3 and a trigger from 5.8.9.5, which were not included in 5.8.9.3b. We propose the following modification:The UE acting as NR sidelink L2 U2U Relay UE shall:1> upon detection end-to-end PC5 connection failure due to per-hop PC5 link failure, in accordance with clause 5.4.3.3 or 5.8.9.3; or1> upon detection end-to-end PC5 connection failure due to per-hop PC5 link release, in accordance with clause 5.4.3.5 or 5.8.9.5; or… | Ok. Same changes as above. |
| ASUSTeK | 5.8.9.1a.1.1 | ...1> for unicast, when the corresponding PC5-RRC connection is released due to sidelink RLF being detected, according to clause 5.8.9.3; or… | In our understating, sidelink DRB release may also be triggered by 5.8.9.3a and 5.8.9.3b. Thus, we suggest the following modification:...1> for unicast, when the corresponding PC5-RRC connection is released due to sidelink RLF being detected, according to clause 5.8.9.3, 5.8.9.3a, or 5.8.9.3b; or… | Thanks, a new if condition is added. |
| ASUSTeK | 5.8.9.5 | …2> if the UE is acting as L2 U2U Relay UE, and this destination identifies a connected L2 U2U Remote UE:3> consider the end-to-end PC5 connection failure for the end-to-end PC5 connection(s) over the per-hop PC5 link established with the L2 U2U Remote UE;3> send *NotificationMessageSidelink* message to the peer L2 U2U Remote UE(s) for the end-to-end PC5 connection(s) in accordance with 5.8.9.10;3> initiate the end-to-end PC5 connection failure related actions as specified in 5.8.9.3a;… | Refer to the wrong clause number.…2> if the UE is acting as L2 U2U Relay UE, and this destination identifies a connected L2 U2U Remote UE:3> consider the end-to-end PC5 connection failure for the end-to-end PC5 connection(s) over the per-hop PC5 link established with the L2 U2U Remote UE;3> send *NotificationMessageSidelink* message to the peer L2 U2U Remote UE(s) for the end-to-end PC5 connection(s) in accordance with 5.8.9.10;3> initiate the end-to-end PC5 connection failure related actions as specified in 5.8.9.3~~a~~b;… | Right, thanks. |
| ASUSTeK | 5.8.9.1a.1.2 | …1> for groupcast and broadcast; or1> for unicast, after receiving the *RRCReconfigurationCompleteSidelink* message, if the sidelink DRB release was triggered due to the configuration received within the *sl-ConfigDedicatedNR*:2> for each *sl-RLC-BearerConfigIndex* included in the received *sl-RLC-BearerToReleaseList*/*sl-RLC-BearerToReleaseListSizeExt* that is part of the current UE sidelink configuration:3> release the RLC entity and the corresponding logical channel for NR sidelink communication, associated with the *sl-RLC-BearerConfigIndex*.1> for unicast, if the sidelink DRB release was triggered due to the reception of the *RRCReconfigurationSidelink* message; or1> for unicast, after receiving the *RRCReconfigurationCompleteSidelink* message, if the sidelink DRB release was triggered due to the configuration received within the *SIB12*, *SidelinkPreconfigNR* or indicated by upper layers:2> if the sidelink DRB is an end-to-end sidelink DRB in L2 U2U relay operation: 3> perform the PC5 Relay RLC channel releas according to 5.8.9.7.1, if there is no other end-to-end sidelink DRB(s) associated with this RLC channel;2> else: 3> release the RLC entity and the corresponding logical channel for NR sidelink communication associated with the sidelink DRB;2> perform the sidelink UE information procedure in clause 5.8.3 for unicast if needed.1> if the sidelink radio link failure is detected for a specific destination:2> release the PDCP entity, RLC entity and the logical channel of the sidelink DRB for the specific destination.… | Since 5.8.9.1a.1.2 may also be triggered due to sidelink RLF being detected, according to 5.8.9.3a, or 5.8.9.3b, we think this should be reflected in this clause e.g.:…1> for groupcast and broadcast; or1> for unicast, after receiving the *RRCReconfigurationCompleteSidelink* message, if the sidelink DRB release was triggered due to the configuration received within the *sl-ConfigDedicatedNR*:2> for each *sl-RLC-BearerConfigIndex* included in the received *sl-RLC-BearerToReleaseList*/*sl-RLC-BearerToReleaseListSizeExt* that is part of the current UE sidelink configuration:3> release the RLC entity and the corresponding logical channel for NR sidelink communication, associated with the *sl-RLC-BearerConfigIndex*.1> for unicast, if the sidelink DRB release was triggered due to the reception of the *RRCReconfigurationSidelink* message; or1> for unicast, after receiving the *RRCReconfigurationCompleteSidelink* message, if the sidelink DRB release was triggered due to the configuration received within the *SIB12*, *SidelinkPreconfigNR* or indicated by upper layers or due to sidelink RLF being detected according to 5.8.9.3a or 5.8.9.3b:2> if the sidelink DRB is an end-to-end sidelink DRB in L2 U2U relay operation: 3> perform the PC5 Relay RLC channel release according to 5.8.9.7.1, if there is no other end-to-end sidelink DRB(s) associated with this RLC channel;2> else: 3> release the RLC entity and the corresponding logical channel for NR sidelink communication associated with the sidelink DRB;2> perform the sidelink UE information procedure in clause 5.8.3 for unicast if needed.1> if the sidelink radio link failure is detected for a specific destination according to 5.8.9.3:2> release the PDCP entity, RLC entity and the logical channel of the sidelink DRB for the specific destination.… | Thanks, change is made accordingly, but not exactly the same with the proposed one. |
| ASUSTeK | 5.8.9.1.2 | …1> for each PC5 Relay RLC channel that is to be released due to configuration by *sl-ConfigDedicatedNR*:2> set the *SL-RLC-ChannelID* corresponding to the PC5 Relay RLC channel in the *sl-RLC-ChannelToReleaseListPC5*;…1>  if the UE is acting as L2 U2U Remote UE (i.e. Tx UE) and is in RRC\_IDLE or in RRC\_INACTIVE or out of coverage, and the procedure is initiated to release the first hop PC5 Relay RLC channel of an end-to-end sidelink DRB to the connected L2 U2N Relay UE (i.e. Rx UE) according to clause 5.8.9.7.1; or1>  if the UE is acting as L2 U2U Relay UE (i.e. Tx UE) and is in RRC\_IDLE or in RRC\_INACTIVE or out of coverage, and the procedure is initiated to release the second hop PC5 Relay RLC channel of an end-to-end sidelink DRB to the connected L2 U2N Remote UE (i.e. Rx UE) according to clause 5.8.9.7.1:2> set the *SL-RLC-ChannelID* corresponding to the PC5 Relay RLC channel in the *s**l-RLC-ChannelToReleaseListPC5*;… | In our understanding, the L2 U2U Remote UE or Relay UE may be in RRC\_CONNECTED when PC5 Relay RLC channel release is triggered due to PC5 RLF, which was not covered by the case of “for each PC5 Relay RLC channel that is to be released due to configuration by *sl-ConfigDedicatedNR*”. If this understanding is correct, we think the condition of the RRC state could be removed to cover this case as below: …1>  if the UE is acting as L2 U2U Remote UE (i.e. Tx UE) ~~and is in RRC\_IDLE or in RRC\_INACTIVE or out of coverage,~~ and the procedure is initiated to release the first hop PC5 Relay RLC channel of an end-to-end sidelink DRB to the connected L2 U2N Relay UE (i.e. Rx UE) according to clause 5.8.9.7.1; or1>  if the UE is acting as L2 U2U Relay UE (i.e. Tx UE) ~~and is in RRC\_IDLE or in RRC\_INACTIVE or out of coverage,~~ and the procedure is initiated to release the second hop PC5 Relay RLC channel of an end-to-end sidelink DRB to the connected L2 U2N Remote UE (i.e. Rx UE) according to clause 5.8.9.7.1:2> set the *SL-RLC-ChannelID* corresponding to the PC5 Relay RLC channel in the *sl-RLC-ChannelToReleaseListPC5*;… | *The thinking is for link failure and release, both Tx and Rx should release RLC channel in the failure/release procedure without sidelink reconfiguration message, which is similar like per-hop release?* |
| ASUSTeK | 5.8.9.10.1 | 5.8.9.10.1 GeneralFigure 5.8.9.8.1-1: Notification message in sidelinkThis procedure is used by a U2N Relay UE to send notification to the connected U2N Remote UE, or used by a L2 U2U Relay UE to send notification to the L2 U2U Remote UE for an end-to-end PC5 connection when condition(s) as specified in 5.8.9.10.2 is met for the other hop between the L2 U2U Relay UE and the peer L2 U2U Remote UE. | It is possible that multiple L2 U2U Remote UEs may connect with the peer L2 U2U Remote UE via the L2 U2U Relay UE. In this situation, all the L2 U2U Remote UEs should be notified when the PC5 RLF between the L2 U2U Relay UE and L2 U2U Remote UE is detected. Similarly, multiple L2 U2N Remote UEs may connect with the network via the L2 U2N Relay UE. Thus, we suggest the following modifications:This procedure is used by a U2N Relay UE to send notification to the connected U2N Remote UE(s), or used by a L2 U2U Relay UE to send notification to the connected L2 U2U Remote UE(s) ~~for an end-to-end PC5 connection~~ when condition(s) as specified in 5.8.9.10.2 is met for the other hop between the L2 U2U Relay UE and the peer L2 U2U Remote UE.  | I agree that one relay can connected with more than one remote UE, which is the same situation in Rel-17. The current wording seems to not exclude anything? |
| Qualcomm | 5.3.3.1a, 5.3.13.1a | For N3C relay UE in RRC\_IDLE, an RRC connection establishment is initiated when a N3C remote UE indicates it to enter RRC\_CONNECTED state.NOTE 1: How/when the N3C remote UE to indicate N3C relay UE to enter RRC\_CONNECTED state is left to UE implementation, e.g. before reporting relay UE information with non-3GPP connection(s). | We didn’t discuss that Remote UE indicates to Relay to enter CONNECTED state, and Relay UE should initiate RRC connection if receiving the indication. Suggestion:NOTE1: N3C remote UE only report N3C relay UEs which are in RRC\_CONNECTED state to the gNB. | I understand we have discussed this and achieved the following agreement:Working assumption: Proposal 11 [20/21] For multi-path Relay Scenario-2, leave it to relay and remote UE implementation on how to trigger the RRC\_IDLE/RRC\_INACTIVE target relay UE to initiate RRC connection establishment procedure. R2 further discuss the solution for Scenario-1. |
| Qualcomm | 5.3.5.6.5 and related ASN.1 | 2> if the *n3c-BearerAssociated* is included for a DRB:3> consider this radio bearer to be associated with the N3C indirect path; | Such indication is not needed. One simple way is to add the associated bearer ID into the *n3c-IndirectPathAddChange,* like as:N3C-IndirectPathAddChange-r18 ::= SEQUENCE {drb-ToAddModList DRB-ToAddModList OPTIONAL, drb-ToReleaseList DRB-ToReleaseList OPTIONAL,  n3c-RelayIdentification-r18 N3C-RelayUE-Info-r18, ...} This is same as existing SCG bearer configuration in DC, and whenever N3C bearer changes, no impact on Radio Bearer Configuration. | Personally I agree this way is also workable, but do not see this is simplest, because we need to add empty DRBtoAddMod list, DRBtoRelease list, SRBtoAddMod list, SRBtoRelease list, and corresponding procedural text for such DRB, SRB management.On the other hand, what is the technical issue for the current way in CR, considering no matter what, there would be reconfiguration either on radio bearer config or N3C config. |
| Qualcomm | 5.2.2.4.13 | 4> if the UE is configured by upper layers to transmit NR sidelink L2 U2U relay discovery messages and *sl-L2U2U-Relay* is included in SIB12; or4>if the UE is configured by upper layers to transmit NR sidelink L3 U2U relay discovery messages and [gNB indication] is included in SIB12: | It is understood this is only for the case that the frequency is included in SIB12, then suggestion:4> if the UE is configured by upper layers to transmit NR sidelink L2 U2U relay discovery messages on the frequency included in SIB12 and *sl-L2U2U-Relay* is included in SIB12; or4>if the UE is configured by upper layers to transmit NR sidelink L3 U2U relay discovery messages on the frequency included in SIB12 and [gNB indication] is included in SIB12: | It seems to more relate to the above level 2 bullet:1. if *sl-FreqInfoList*/*sl-FreqInfoListSizeExt* is included in *SIB12-IEs*:

3> if configured to receive NR sidelink communication:4> use the resource pool(s) indicated by *sl-RxPool* for NR sidelink communication reception, as specified in 5.8.7;To be safe, I tend to think not do the change now, let think more about it and discuss it if needed in next meeting. |
| Qualcomm | 5.8.3, 5.2.2.4.13 | It is still open whether gNB capability indication is needed for L3 U2U discovery, and since from discovery transmission and perspective, there is no difference between L2 and L3. We would like to keep it open that whether the indication *sl-L2U2U-Relay* is applicable to L2 U2U discovery reception and transmission.  | keep it open that whether the indication *sl-L2U2U-Relay* is applicable to L2 U2U discovery reception and transmission. | I do not see the current CR exclude this possibility, i.e. it’s open indeed. |
| OPPO | 5.3.3.1a/5.3.13.1a | For N3C relay UE in RRC\_IDLE, an RRC connection establishment is initiated when a N3C remote UE indicates it to enter RRC\_CONNECTED state.NOTE 1: How/when the N3C remote UE to indicate N3C relay UE to enter RRC\_CONNECTED state is left to UE implementation, e.g. before reporting relay UE information with non-3GPP connection(s).For N3C relay UE in RRC\_INACTIVE, an RRC connection resume is initiated when a N3C remote UE indicates it to enter RRC\_CONNECTED state.NOTE 1: How/when the N3C remote UE to indicate N3C relay UE to enter RRC\_CONNECTED state is left to UE implementation, e.g. before reporting relay UE information with non-3GPP connection(s). | Since we agree only support N3C relay in RRC connected, why we need to have this IDLE/INACTIVE N3C relay UE behaviour? | We agree only connected relay can be reported to network, but not agree that idle/inactive relay cannot be triggered by remote UE, and this is to capture the following agreementFor multi-path Relay Scenario-2, leave it to relay and remote UE implementation on how to trigger the RRC\_IDLE/RRC\_INACTIVE target relay UE to initiate RRC connection establishment procedure. R2 further discuss the solution for Scenario-1. |
| OPPO | 5.8.9.1a.4 | 1> for end-to-end SRB1/2/3:2> if the UE is acting L2 U2U Remote UE:3> establish the PDCP entity for the end-to-end sidelink SRB1/2/3;2> consider the specified PC5 RLC channel as the egress PC5 relay RLC channel; 4> associate this end-to-end sidelink DRB with the PC5 RLC channel and configure the mapping to SRAP; | The establish PDCP entity as L2 U2U Remote UE is not needed ( i.e., “2> if the UE is acting L2 U2U Remote UE: 3> establish the PDCP entity for the end-to-end sidelink SRB1/2/3;”) since it can already be covered by the following existing bullets 1> if transmission of PC5-S message for a specific destination is requested by upper layers for sidelink SRB:2> establish PDCP entity, RLC entity and the logical channel of a sidelink SRB for PC5-S message if needed, as specified in clause 9.1.1.4;1> if transmission of discovery message for a specific destination is requested by upper layers for sidelink SRB:2> establish PDCP entity, RLC entity and the logical channel of a sidelink SRB4 for discovery message, as specified in clause 9.1.1.4;1> if a PC5-RRC connection establishment for a specific destination is indicated by upper layers:2> establish PDCP entity, RLC entity and the logical channel of a sidelink SRB for PC5-RRC message of the specific destination if needed, as specified in clause 9.1.1.4;2> consider the PC5-RRC connection is established for the destination. | Right. Change is made. |
| OPPO | 5.8.9.3a | 2> if the end-to-end PC5 connection failure is due to T400 expiry or integrity check failure of SL-SRB2 or SL-SRB3:3> send *RemoteUEInformationSidelink* message to the L2 Relay UE in the middle of the end-to-end PC5 connection(s) in accordance with 5.8.9.8.2; | This is no needed since relay UE can know the E2E link is released based on upper layer signalling, i.e., L2 link modification procedure | It would be good if upper layer procedure can support this already, but I did not find how this is captured in SA2/CT1 specification, can you illustrate more? |
| OPPO | 5.8.9.3b | 5.8.9.3b End-to-end PC5 connection failure/release related actions performed by L2 U2U Relay UE | This is not needed since U2U relay UE only needs to discard the related bearer configurations (RLC channel) which is already covered in 5.8.9.1a.1.1 for DRB and 5.8.9.1a.1.3 for SRB | The logic is relay first trigger DRB release in end-to-end failure procedure, then go into DRB release procedure to release RLC if there is no other DRB is mapped to this RLC, so the trigger needs to be captured in 5.8.9.3b. |
| OPPO | 5.8.9.5 | 3> send *NotificationMessageSidelink* message to the peer L2 U2U Remote UE(s) for the end-to-end PC5 connection(s) in accordance with 5.8.9.10; | Did we have agreement on this? We understand the PC5 link release triggered by upper should be handled by upper layer bot AS layer. | Do you mean before per-hop PC5 release, upper layer would first release all E2E PC5 connection? |
| OPPO | 5.8.9.5a | 5.8.9.5a Actions related to end-to-end PC5-RRC connection release performed by L2 U2U Remote UE | We understanding this new section is not needed since there is no additional UE behaviour compared to 5.8.9.5 | The issue is if all the things mix up in the legacy per-hop clause, it is very difficult to describe which behaviour should be preformed by non-U2U UE, and which should be performed by U2U UE.If there is nothing wrong in the new clause, I tend to keep it. |
| OPPO | 5.8.9.8.2 | This procedure is also used by the L2 U2U Remote UE to send end-to-end PC5 connection release/failure related information to L2 U2U Relay UE. | We understand this is not needed since U2U Relay UE can know the E2E PC5 link is released by upper layer signalling (L2 link modification procedure) | If SA2 already capture this release signaling, it would be good, so we do not need to have this AS procedure, but I did not find it in SA2/CT1 specification. Can you explain more? |
| OPPO | 5.8.9.10.2 | 2> upon PC5-RRC connection release for the per-hop link between the L2 U2U Relay UE and L2 U2U Remote UE as specified in 5.8.9.5; | Do we have agreement on this? | Do you mean there is no per-hop link release? |
| Apple  | 5.3.5.5.2 | 2> if the UE is acting as L2 U2N Remote UE at the source side:3> if the sl-IndirectPathMaintain is not included in reconfigurationWithSync:4> indicate upper layer to trigger PC5 unicast link release. | “the” is not needed in “ if the sl-IndirectPathMaintain is not included in reconfigurationWithSync” | ok |
| Apple | 5.3.5.5.2 | NOTE 4: For MP, direct path release is achieved by direct-to-indirect path switch procedure, where MP is configured in source side. | We are not sure the NOTE is needed. If needed, to be exactly describe the procedure, we can say, the MP direct path release is realized by RRCReconfiguration with ReconfigurationWithSync included and sl-indirectPathMaintain indicated, where MP is configured in source side.  | ok |
| Apple  | 5.3.5.17.2.2 | The L2 U2N Remote UE shall:1> if sl-IndirectPathAddChange is set to setup:2> if the sl-IndirectPathMaintain is not included in reconfigurationWithSync:3> consider the UE indicated by the sl-IndirectPathRelayUE-Identity to be the (target) L2 U2N Relay UE and indicate to upper layer to trigger the PC5 unicast link establishment with the L2 U2N Relay UE;3> start timer T421 for the corresponding L2 U2N Relay UE with the timer value set to T421;3> indicate to upper layer (to trigger the PC5 unicast link release) with the source L2 U2N Relay UE in case of SL indirect path change (i.e. a new L2 U2N Relay UE is indicated via sl-IndirectPathRelayUE-Identity);2> else (i.e. the sl-IndirectPathMaintain is included in reconfigurationWithSync):3> consider the source L2 U2N Relay UE to be the L2 U2N Relay UE on indirect path in MP operation;1> else if sl-IndirectPathAddChange is set to release:2> consider the SL indirect path is released and release the corresponding configurations;2> indicate to upper layer (to trigger the PC5 unicast link release) with the L2 U2N Relay UE.NOTE: For MP, direct path addition is achieved by indirect-to-direct path switch procedure, where sl-IndirectPathAddChange is set to setup in the path switch command from target side. | First, we are not sure the concept of “source L2 U2N relay UE” in this scenario, maybe this can be simply referred as “current connected L2 U2N relay UE”.Then, we are confused by the NOTE, why MP direct path addition is achieved by indirect-to direct path switch procedure” in legacy R17? Maybe we can just simply say “is realized by RRCReconfiguration with ReconfigurationWithSync included, where sl-IndirectPathAddChange is set to setup in RRCReconfiguration command”. | ok |
| Apple | 6.3.3 “cellGrpoupConfig” | ReconfigurationWithSync ::= SEQUENCE { spCellConfigCommon ServingCellConfigCommon OPTIONAL, -- Need M newUE-Identity RNTI-Value, t304 ENUMERATED {ms50, ms100, ms150, ms200, ms500, ms1000, ms2000, ms10000}, rach-ConfigDedicated CHOICE { uplink RACH-ConfigDedicated, supplementaryUplink RACH-ConfigDedicated } OPTIONAL, -- Need N ..., [[ smtc SSB-MTC OPTIONAL -- Need S ]], [[ daps-UplinkPowerConfig-r16 DAPS-UplinkPowerConfig-r16 OPTIONAL -- Need N ]], [[ sl-PathSwitchConfig-r17 SL-PathSwitchConfig-r17 OPTIONAL -- Cond DirectToIndirect-PathSwitch ]], [[ rach-LessHO-r18 RACH-LessHO-r18 OPTIONAL, -- Need N Sl-IndirectPathMaintain-r18 ENUMERATED{true} OPTIONAL -- Cond MP ]]}MPThis field is optionally present, Need N, if a L2 U2N remote UE is configured with direct path addition for MP during indirect-to-direct path swith procedure, or configured with direct path release for MP during direct-to-indirect path switch procedure. It is absent otherwise. | The new IE “Sl-IndirectPathMaintain-r18 “ need to be begin with lower case “sl”,Also, for the newly added condition “MP”, this needs to be inserted in the “conditional presence” table in alphabetic manner, not at the end of the table.In the description for MP condition, “during indirect-to-direct path swich procedure” is wrong, this is MP direct path addition, and we do not deem it as a path switch procedure, so we need remove this part. I have the similar comment for the “during direct-to-indirect path switch procedure” for direct path release MP case, it is better not categorize the MP cases with service continuity cases. | Thanks. The change is made.For “indirect-to-direct path swich”, I understand some companies have concern this indication would change existing logic, thus we emphasize in agreement that An explicit network indication is introduced for direct addition/change/release to indicate remote UE to maintain the PC5 unicast link with the source relay UE during Rel-17 I2D/D2I path switch procedures. |
| ZTE | 5.8.9.7.2 | 2> if *sl-PathSwitchConfig* was included in *reconfigurationWithSync*:3> if the *IndirectPathMaintain* is not included in *reconfigurationWithSync*:4> stop timer T420;4> release all radio resources, including release of the RLC entities and the MAC configuration at the source side;4> reset MAC used in the source cell; | The IE name should be *sl-IndirectPathMaintain.*If the source side is MP, whether the SRAP entity of the indirect path need to be released? Whether the sidelink MAC should be reset?It is better to differentiate the source side is single direct path or MP. | Corrected.I guess the point of keeping the link is not to touch the UP entities. |
| ZTE | 5.3.5.5.2 | 2> if the UE is acting as L2 U2N Remote UE at the source side:3> if the *sl-IndirectPathMaintain* is not included in *reconfigurationWithSync*:4> indicate upper layer to trigger PC5 unicast link release. | If the UE is MP remote UE at the source side, the direct path of the MP at the source side should also be released? | This should be covered by legacy path switch procedure. |
| ZTE | 5.3.5.17.2.2 | NOTE: For MP, direct path addition is achieved by indirect-to-direct path switch procedure, where *sl-IndirectPathAddChange* is set to setup in the path switch command from target side. | Firstly, agree with Apple, MP should not be mixed into path switch.Secondly, for direct path addition, it is enough indicated by I2D + sl-indirectPathMaintain (indirect path maintained + direct path addition). Why *sl-IndirectPathAddChange* is further needed from target side?In addition, based on current procedure text, it is not clear how direct path change is achieved (it seems some procedure text is missing)? | Please see the reply to apple. The agreement clarify the new indication is on top of the path switching procedure.Direct path change is just legacy PCell change, with MP configured in both of source side and target side. Basically I think it can fit in direct path addition case, but do you think there is more to be added? |
| ZTE | 5.5.5.1 | 6> if the UE supports *multipathRemoteUE-PC5L2* and idle/inactive relay UE reporting, and if the *sl-RelayIndicationMP* is contained in the discovery message received from the concerned L2 U2N Relay UE:7> set the *sl-RelayIndicationMP* in the *sl-MeasResultsCandRelay*; | Remote UE does not know the RRC state of relay UE, this should be removed. | This is trying to refer to the optional UE capability, I would update to align with the UE capability name. |
| ZTE | ReportConfigNR | ***eventXN-SD-Threshold***Indicates the SD-RSRP threshold value for the serving L2 U2N Relay UE in event *XN* (*N* equals 1 or 2). If this field is not included, the UE considers the SD-RSRP threshold value equals to the one indicated by *x1-Threshold1*/ *x2-Threshold*. | *x1-Threshold1-Relay* / *x2-Threshold-Relay* | Corrected. Thanks.  |
| Samsung | 5.3.5.17.2.2 | 2> else (i.e. the sl-IndirectPathMaintain is included in reconfigurationWithSync):3> consider the source L2 U2N Relay UE to be the L2 U2N Relay UE on indirect path in MP operation; | It seems that we didn’t agree to include sl-IndirectpathPathMaintain IE for indirect path add/change procedure. This part can be removed. Similarly, “2> if the sl-IndirectPathMaintain is not included in reconfigurationWithSync” can be also removed.  |  |
| Samsung | 5.3.10.3 | 6> if MP is configured, and MP indirect path transmission is not suspended; and6> if neither MP indirect path change nor MP indirect path addition is ongoing:7> initiate the MCG failure information procedure as specified in 5.7.3b to report MCG radio link failure. | Based on “if MP is configured”, the “MP indirect path addition” is impossible. Suggest to remove it. |  |
| Samsung | 5.7.3b.4 | 1> if SRB1 is configured as split SRB and pdcp-Duplication is not configured:2> if the primaryPath for the PDCP entity of SRB1 refers to the direct path when MP is configured:3> set the primaryPath to refer to the indirect path; | We agree that the primary path of split SRB1 should be always set at direct path. However, this sentence seems to indicate that the primary path of split SRB1 can be set to indirect path. Suggest to:“2> if MP is configured: 3> set the primaryPath to refer to the indirect path” |  |
| Samsung | 5.8.8.3 | 5> include sl-U2U-InfoList and set its fields (if needed) for each entry as follows, to report the related information of the connected L2 Remote UEs:6> include the source L2 U2U Remote UE's source L2 destination in sl-TargetUE-Identity;6> include sl-PerSLRB-QoS-InfoList, with each entry including the per-SLRB second-hop QoS profile and the corresponding sl-RemoteUE-SLRB-Identity which is set to the same value as the SLRB-PC5-ConfigIndex received in RRCReconfigurationSidelink message from the L2 U2U Remote UE for the same end-to-end SLRB; | Both ‘source’ and ‘destination’ cannot be used. Suggest to : 6> include the source L2 U2U Remote UE's source L2 destination in sl-TargetUE-Identity; |  |
| Samsung | 5.8.9.1a.2.1 | 1> for L2 U2U relay operation, if no sidelink QoS flow indicated by source L2 U2U Remote UE is mapped to the end-to-end sidelink DRB for transmission when the UE is acting as L2 U2N Relay UE. | L2 U2U Relay UE |  |
| Samsung | 5.8.9.1a.1.2 | 1> for unicast, if the sidelink DRB release was triggered due to the reception of the RRCReconfigurationSidelink message; or1> for unicast, after receiving the RRCReconfigurationCompleteSidelink message, if the sidelink DRB release was triggered due to the configuration received within the SIB12, SidelinkPreconfigNR or indicated by upper layers:2> if the sidelink DRB is an end-to-end sidelink DRB in L2 U2U relay operation: 3> perform the PC5 Relay RLC channel releas according to 5.8.9.7.1, if there is no other end-to-end sidelink DRB(s) associated with this RLC channel; | Typo: release |  |
| Samsung | 5.8.9.1a.2.1 | 1> if any sidelink QoS flow is (re)configured by source L2 U2U Remote UE and is mapped to a end-to-end sidelink DRB for transmission when the UE is acting as L2 U2N Relay UE; | L2 U2U Relay UE |  |
| Samsung | 5.8.9.1a.2.2 | For the sidelink DRB, whose sidelink DRB modification conditions are met as in clause 5.8.9.1a.2.1, the UE capable of NR sidelink communication that is configured by upper layers to perform NR sidelink communication shall:(omitted)2> if the UE is in RRC\_CONNECTED:3> reconfigure the SRAP entity for the sidelink DRB, in accordance with the sl-SRAP-ConfigU2U received in sl-ConfigDedicatedNR, if included;2> else if the UE is in RRC\_IDLE or RRC\_INACTIVE:3> reconfigure the SRAP entity for the sidelink DRB derived based on configuration received in SIB12;2> else if the UE is out of coverage:3> reconfigure the SRAP entity for the sidelink DRB derived based on configuration received in SidelinkPreconfigNR. | With this context, the UE should be specified as ‘L2 U2U Remote UE’, right? |  |
| Samsung | 5.8.9.1a.4 | 1> for end-to-end SRB1/2/3:2> if the UE is acting L2 U2U Remote UE:3> establish the PDCP entity for the end-to-end sidelink SRB1/2/3;2> consider the specified PC5 RLC channel as the egress PC5 relay RLC channel; 4> associate this end-to-end sidelink DRB with the PC5 RLC channel and configure the mapping to SRAP; | This should be end-to-end sidelink SRB? |  |
| Samsung | 5.8.9.7.2 | For L2 U2U Relay operation in RRC\_IDLE/RRC\_INACTVE or out of coverage, the PC5 Relay RLC channel addition/modification can be triggered due to the addition/modification/release of the end-to-end SL DRB(s). The source L2 U2U Remote UE and L2 U2N Relay UE derive the corresponding PC5 Relay RLC channel based on SIB12/Preconfiguraas follows:* The source L2 U2U Remote UE derives the configuration for the PC5 Relay RLC channel(s) between L2 U2U Source Remote UE and L2 U2U relay UE (i.e. the first hop PC5 Relay RLC channel), by aggregating the split QoS profiles of the first hop into a per-SLRB level QoS profile for each end-to-end SL DRB, and considering the SL-RLC-Config (linked to the SL-RadioBearerConfig which matches the per-SLRB level QoS profile) as the first hop RLC channel configuration.
* The L2 U2U Relay UE derives the configuration for the PC5 Relay RLC channel(s) between L2 U2U relay UE and the target L2 U2U Source Remote UE (i.e. the second hop PC5 Relay RLC channel), by aggregating the split QoS profiles of the second hop into a per-SLRB level QoS profile for each end-to-end SL DRB, and considering the SL-RLC-Config (linked to the SL-RadioBearerConfig which matches the per-SLRB level QoS profile) as the second hop RLC channel configuration.
 | TyposL2 U2N Relay UE 🡪> L2 U2U Relay UEPreconfiguraas 🡪 Preconfiguration |  |
| Samsung | 5.8.9.8.3 | The L2 U2N Relay UE shall:1> if the RemoteUEInformationSidelink includes the sl-DestinationIdentityRemoteUE:2> consider the end-to-end PC5 connection release for the end-to-end PC5 connection between the L2 U2U Remote UE and the peer L2 U2U Remote UE identified by sl-DestinationIdentityRemoteUE;2> initiate the end-to-end PC5 connection failure/release related actions as specified in 5.8.9.3b; | L2 U2U Relay UE |  |
| Samsung | 6.2.2 | – IndirectPathFailureInformationn3c-RelayUE-InfoList-r18 SEQUENCE (SIZE (0..8)) OF N3C-RelayUE-Info-r18 OPTIONAL, | Since it is optional IE, size of 0 is not needed. Same comment for UEAssistanceINformation |  |
| Samsung | 6.3.2 | ReconfigurationWithSync ::= SEQUENCE { … Sl-IndirectPathMaintain-r18 ENUMERATED{true} OPTIONAL -- Cond MP ]]} | The explanation for conditional presence of “MP” The direct path change case is missing here. Suggest to add “…, or configured with direct path change for MP, or configured with direct path release for MP …” |  |
| Samsung  | 6.3.2 | N3C-IndirectPathConfigRelay-r18 ::= SEQUENCE { n3c-MappingToReleaseList-r18 SEQUENCE (SIZE (1..maxLC-ID)) OF SL-RemoteUE-RB-Identity-r17 OPTIONAL, -- Need N n3c-MappingToAddModList-r18 SEQUENCE (SIZE (1..maxLC-ID)) OF N3C-ToAddModMappingConfig-r18 OPTIONAL, -- Need N ...} | “N3C-MappingConfig-r18” |  |