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# 2 Comments collection

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| **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.* |  |
| 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* |  |
| 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. |  |
| 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.* |  |
| 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. |  |
| 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. |  |
| 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; |  |
| 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… |  |
| 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… |  |
| 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… |  |
| 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;… |  |
| 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.… |  |
| 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*;… |  |
| 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.  |  |
| 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. |  |
| 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. |  |
| 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: |  |
| 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. |  |
| 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? |  |
| 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. |  |
| 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 |  |
| 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 |  |
| 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. |  |
| 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 |  |
| 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) |  |
| 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? |  |