3GPP TSG-RAN WG3 #116-e R3-223114

9th – 19th May 2022

Online

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **37.340** | **CR** | **Draft** | **rev** | **-** | **Current version:** | **17.0.0** |  |
|  | | | | | | | | |
| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | |
|  | | | | | | | | |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | **x** | Core Network |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | Completion of the CPC description to TS37.340 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | ZTE, Lenovo, CATT | | | | | | | | | |
| ***Source to TSG:*** | RAN3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | LTE\_NR\_DC\_enh2-Core | | | | |  | ***Date:*** | | | 2022-04-20 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | F |  | | | | | ***Release:*** | | | Rel-17 |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change in an earlier release)* ***B*** *(addition of feature),* ***C*** *(functional modification of feature)* ***D*** *(editorial modification)*  Detailed explanations of the above categories can be found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) … Rel-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | For CPC, in TS36.423/TS38.423, it states that “*For Conditional PSCell Change in EN-DC, the Early Status Transfer procedure is also used, from the source en-gNB to the MeNB, and from the MeNB to the target en-gNB, as specified in TS 37.340 [32].*”  However, current TS37.340 has not included the description of Early Status Transfer procedures. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | For CPC, in order to align with the stage 3 specifications, add the description of Early Status Transfer procedure | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | For CPC, its description in stage 2 specification is not complete. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 10.5.1, 10.5.2 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **x** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  | **x** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **x** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | | Rev0: R3-223114 | | | | | | | | |

## 10.5 Secondary Node Change (MN/SN initiated)

### 10.5.1 EN-DC

The Secondary Node Change procedure is initiated either by MN or SN and used to transfer a UE context from a source SN to a target SN and to change the SCG configuration in UE from one SN to another. In case of CPC, the Secondary Node Change procedure initiated either by the MN or SN is also used for CPC configuration and CPC execution.

NOTE 1: Inter-RAT SN change procedure with single RRC reconfiguration is not supported in this version of the protocol (i.e. no transition from EN-DC to DC).

<Skip unrelated part>

**MN initiated conditional SN Change**

The MN initiated conditional inter-SN change procedure is used to configure CPC configuration.



**Figure 10.5.1-3: Conditional SN Change – MN initiated**

Figure 10.5.1-3 shows an example signalling flow for the MN initiated Conditional Secondary Node Change:

1/2. The MN initiates the conditional SN change by requesting the target candidate SN to allocate resources for the UE by means of the SgNB Addition procedure. The MN also provides the candidate cells recommended by MN via the latest measurement results for the SN to choose and configure the SCG cell(s), and provides the upper limit for the number of PSCells. Within the list of cells as indicated within the measurement results indicated by the MN, the SN decides the list of PSCell(s) to prepare and, for each prepared PSCell, the SN decides other SCG SCells and provides the new corresponding SCG radio resource configuration to the MN in an NR RRC configuration message (*RRCReconfiguration\*\*\**) contained in the SgNB Addition Request Acknowledge message with the prepared PSCell ID(s). If forwarding is needed, the target SN provides forwarding addresses to the MN. The target SN includes the indication of the full or delta RRC configuration. The target SN can either accept or reject each of the candidate cells suggested by the MN, i.e. it cannot come up with any alternative candidates.

NOTE 5: The MN may trigger the MN-initiated SN Modification procedure (to the source SN) to retrieve the current SCG configuration before step 1.

3. The MN sends to the UE an *RRCConnectionReconfiguration* message (*RRCConnectionReconfiguration\**)including the CPC configuration, (i.e. a list of *RRCConnectionReconfiguration\*\** messages)and associated execution conditions, in which a *RRCConnectionReconfiguration\*\** message contains a *RRCReconfiguration\*\*\** received from the candidate SN and possibly an MCG configuration. Besides, the *RRCConnectionReconfiguration* message (*RRCConnectionReconfiguration\**)can also include the current MCG updated configuration, e.g., to configure the required conditional measurements.

4. The UE applies the RRC configuration (in *RRCConnectionReconfiguration\**) excluded the CPC configuration, stores the CPC configurationand replies to the MN with an *RRCConnectionReconfigurationComplete* message (*RCConnectionReconfigurationComplete\**) without any NR RRC response message. In case the UE is unable to comply with (part of) the configuration included in the *RRCConnectionReconfiguration\** message, it performs the reconfiguration failure procedure.

4a. Upon receiving the *RRCConnectionReconfigurationComplete* message from the UE, the MN triggers the Data Forwarding Address Indication procedure to the source SN to inform that the CPC has been triggered, the source SN, if applicable, together with the Early Status Transfer procedure, starts early data forwarding. The PDCP PDU and/or PDCP SDU forwarding may take place during early data forwarding.

5. The UE starts evaluating the execution conditions. If the execution conditionof one candidate PSCell is satisfied, the UE applies *RRCConnectionReconfiguration* message(*RRCConnectionReconfiguration\*\**) corresponding to the selected candidate PSCell, and sends an *RRCConnectionReconfigurationComplete* message (*RRCConnectionReconfigurationComplete\*\**), including an NR RRC message (*RRCReconfigurationComplete\*\*\*)* for the selected candidate PSCell, and the selected PSCell information to the MN.

6a-6b. The MN triggers the MeNB initiated SgNB Release procedure to inform the source SN to stop providing user data to the UE, and the address of the selected SN and if applicable, to start data forwarding.

7. If the RRC connection reconfiguration procedure was successful, the MN informs the selected target SN via *SgNBReconfigurationComplete* message, including the *RRCReconfigurationComplete\*\*\** message for the target SN. The MN sends the SgNB Release Request messages to cancel CPC in the other target candidate SNs, if configured.

8. If configured with bearers requiring SCG radio resources, the UE synchronizes to the target SN indicated in *RRCConnectionReconfiguration\*\**.

9. For SN terminated bearers using RLC AM, the source SN sends the SN Status Transfer, which the MN sends to the target selected SN, if needed.

10. If applicable, data forwarding from the source SN takes place. It may be initiated as early as the source SN receives the early data forwarding address in step 3.

11. The source SN sends the *Secondary RAT* *Data Usage Report* message to the MN and includes the data volumes delivered to and received from the UE over the NR radio for the related E-RABs.

NOTE 6: The order the SN sends the *Secondary RAT Data Usage Report* message and performs data forwarding with MN is not defined. The SN may send the report when the transmission of the related bearer is stopped.

12-16. If applicable, a path update is triggered by the MN.

17. Upon reception of the *UE Context Release* message, the source SN releases radio and C-plane related resources associated to the UE context. Any ongoing data forwarding may continue.

**SN initiated conditional inter-SN Change**

The SN initiated conditional inter-SN change procedure is used to configure CPC configuration.

The SN initiated conditional inter-SN change procedure may also be initiated by the source SN, to modify the existing CPC configuration, or to trigger the release of the target SN by cancellation of all the prepared PSCells at the target SN and releasing the CPC related UE context at the target SN.



**Figure 10.5.1-4: Conditional SN Change – SN initiated**

Figure 10.5.1-4 shows an example signalling flow for the Conditional Secondary Node Change initiated by the SN:

1. The source SN initiates the conditional SN change procedure by sending *SgNB Change Required* message which contains a CPC initiation indication. The message also contains target SN ID(s) information and may include the SCG configuration (to support delta configuration), and contains the measurement results related to the target candidate SN(s). The message also includes a list of proposed PSCell candidates recommended by the source SN, including execution conditions, the upper limit for the number of PSCells, and may also include the SCG measurement configurations for CPC (e.g. measId(s) to be used for CPC).

2/3. The MN requests the target candidate SN(s) to allocate resources for the UE by means of the SgNB Addition procedure(s), including a CPC initiation indication, and the measurements results related to the target candidate SN and indicate the list of proposed PSCell candidates received from the source SN, but not including execution conditions. Within the list of PSCells, the SN decides the list of PSCell(s) to prepare and, for each prepared PSCell, the SN decides other SCG SCells and provides the new corresponding SCG radio resource configuration to the MN in an NR RRC configuration message (*RRCReconfiguration\*\*\*\**) contained in the *SgNB Addition Request Acknowledge* message. If forwarding is needed, the target SN provides forwarding addresses to the MN. The target SN includes the indication of the full or delta RRC configuration, and the list of prepared PSCell IDs to the MN. The target SN can either accept or reject each of the candidate cells suggested by the source SN, i.e. it cannot come up with any alternative candidates.

4. The MN may indicate the candidate PSCells accepted by the target SN to the source SN via SgNB Modification Request message, if needed, e.g., when T-SN does not acknowledge all candidate PSCells, otherwise step 4 and 5 are skipped, e.g. when T-SN accepts all candidate PScells.

5. The source SN may provide the updated measurement configurations and the execution conditions for CPC to the MN via SgNB Modification Request Acknowledge message.

6. The MN sends to the UE an *RRCConnectionReconfiguration* message (*RRCConnectionReconfiguration\**)including the CPC configuration, (i.e. a list of *RRCConnectionReconfiguration\*\*\** messages)and associated execution conditions, in which a *RRCConnectionReconfiguration\*\*\** messagecontains a *RRCReconfiguration\*\*\*\** received from the candidate SN and possibly an MCG configuration. Besides, the *RRCConnectionReconfiguration* message (*RRCConnectionReconfiguration\**)can also include the current MCG updated configuration, e.g., to configure the required conditional measurements, as well as the NR RRC configuration message (*RRCReconfigutation\*\**) generated by the source-SN.

7. The UE applies the RRC configuration (in *RRCConnectionReconfiguration\**) excluded the CPC configuration, stores the CPC configurationand replies to the MN with an *RRCConnectionReconfigurationComplete* message (*RCConnectionReconfigurationComplete\**), which can include an NR RRC response message (*RRCReconfigurationComplete\*\**). In case the UE is unable to comply with (part of) the configuration included in the *RRCConnectionReconfiguration\** message, it performs the reconfiguration failure procedure.

8a. If an NR RRC response message is included, the MN informs the source SN with the NR RRC response message (*RRCReconfigutationComplete*\*\*) for the source SN via *SgNB Change Confirm* message.

The MN sends the *SgNB Change Confirm* message towards the Source SN to indicate that CPC is prepared, and in such case the source SN continues providing user data to the UE. If early data forwarding is applied, the MN informs the source SN the data forwarding addresses as received from the target SN, the source SN, if applicable, together with the Early Status Transfer procedure, starts early data forwarding. The PDCP PDU and/or PDCP SDU forwarding may take place during early data forwarding. In case multiple Target SNs are prepared, the MN includes a list of Target SgNB ID and list of data forwarding addresses to the source SN.

9a-9d. The source SN may send the *SgNB Modification Required* message to trigger an update of CPC execution condition or corresponding SCG measConfig for CPC for the UE if any. In such case in step 9b and 9c, the MN reconfigures the UE as in step 6 and 7.

10. The UE starts evaluating the execution conditions. If the execution conditionof one candidate PSCell is satisfied, the UE applies *RRCConnectionReconfiguration* message(*RRCConnectionReconfiguration*\*\*\*) corresponding to the selected candidate PSCell, and sends an *RRCConnectionReconfigurationComplete* message (*RRCConnectionReconfigurationComplete*\*\*\*), including an NR RRC message (*RRCReconfigurationComplete\*\*\*\*)* for the selected candidate PSCell, and the selected PSCell information to the MN.

11a-11b. The MN triggers the MeNB initiated SgNB Release procedure to inform source SN to stop providing user data to the UE, and provide the address of the selected target SN and if applicable, start late data forwarding.

12. If the RRC connection reconfiguration procedure was successful, the MN informs the target SN via *SgNB Reconfiguration Complete* message, including the SN *RRCReconfigurationComplete\*\*\*\** response message for the target SN. The MN sends the SgNB Release Request messages to cancel CPC in the other target candidate SNs, if configured.

13. The UE synchronizes to the target SN indicated in *RRCConnectionReconfiguration*\*\*\*.

14. For SN terminated bearers using RLC AM, the source SN sends the SN Status Transfer, which the MN sends then to the target SN, if needed.

15. If applicable, data forwarding from the source SN takes place. It may be initiated as early as the source SN receives the early data forwarding message from the MN.

16. The source SN sends the *Secondary RAT* *Data Usage Report* message to the MN and includes the data volumes delivered to and received from the UE over the NR radio for the related E-RABs.

NOTE 7: The order the source SN sends the *Secondary RAT Data Usage Report* message and performs data forwarding with MN/target SN is not defined. The SgNB may send the report when the transmission of the related bearer is stopped.

17-21. If applicable, a path update is triggered by the MN.

22. Upon reception of the *UE Context Release* message, the source SN releases radio and C-plane related resources associated to the UE context. Any ongoing data forwarding may continue.

### 10.5.2 MR-DC with 5GC

<Skip unrelated part>

**MN initiated conditional SN Change**

The Conditional Secondary Node Change procedure is initiated by the MN for CPC configuration and CPC execution.



**Figure 10.5.2-3: Conditional SN change procedure - MN initiated**

Figure 10.5.2-3 shows an example signalling flow for the conditional SN Change initiated by the MN:

1/2. The MN initiates the conditional SN change by requesting the target candidate SN to allocate resources for the UE by means of the SN Addition procedure. The MN also provides the candidate cells recommended by MN via the latest measurement results for the SN to choose and configure the SCG cell(s), provides the upper limit for the number of PSCells. Within the list of cells as indicated within the measurement results indicated by the MN, the SN decides the list of PSCell(s) to prepare and, for each prepared PSCell, the SN decides other SCG SCells and provides the new corresponding SCG radio resource configuration to the MN in an NR RRC configuration message (*RRCReconfiguration*\*\*\*) contained in the SN Addition Request Acknowledge message with the prepared PSCell ID(s). If data forwarding is needed, the target SN provides data forwarding addresses to the MN. The target SN includes the indication of the full or delta RRC configuration. The target SN can either accept or reject each of the candidate cells suggested by the MN, i.e. it cannot come up with any alternative candidates.

NOTE 4: The MN may trigger the MN-initiated SN Modification procedure (to the source SN) to retrieve the current SCG configuration and to allow provision of data forwarding related information before step 1.

3. The MN sends to the UE an *RRC reconfiguration* message (*RRC reconfiguration\*)* including the CPC configuration, (i.e. a list of *RRC reconfiguration\*\** messages)and associated execution conditions, in which a *RRC reconfiguration\*\** messagecontains a *RRCReconfiguration\*\*\** received from the candidate SN and possibly an MCG configuration. Besides, the *RRC reconfiguration* message (*RRC reconfiguration\**)can also include the current MCG updated configuration, e.g., to configure the required conditional measurements.

4. The UE applies the RRC configuration (in *RRC reconfiguration\**) excluded the CPC configuration, stores the CPC configurationand replies to the MN with an *RRC reconfiguration complete* message (*RRC reconfiguration complete\**) without any NR SN RRC response messag). In case the UE is unable to comply with (part of) the configuration included in the *RRC reconfiguration\** message, it performs the reconfiguration failure procedure.

4a. Upon receiving the MN RRC reconfiguration complete message from the UE, the MN informs the SN that the CPC has been triggered via Xn-U Address Indication procedure, the source SN, if applicable, together with the Early Status Transfer procedure, starts early data forwarding. The PDCP PDU and/or PDCP SDU forwarding may take place during early data forwarding. The Xn-U Address Indication procedure may further be invoked to indicate to the source SN to stop already initiated early data forwarding for some PDCP PDU and/or PDCP SDU if they are no longer subject to data forwarding due to the modification of the prepared conditional PSCell change.

5. The UE starts evaluating the execution conditions. If the execution conditionof one candidate PSCell is satisfied, the UE applies *RRC reconfiguration* message (*RRC reconfiguration\*\**) corresponding to the selected candidate PSCell, and sends an MN *RRC reconfiguration complete* message (*RRC reconfiguration complete\*\**), including an NR RRC reconfiguration complete message (*RRCReconfigurationComplete\*\*\**) for the selected candidate PSCell, and the selected PSCell information to the MN.

Editor's Note: Whether a message is needed and which message is used to inform source SN to stop providing user data to the UE, and the address of the selected target SN and if applicable, to start late data forwarding are FFS.

6a-6c. The MN triggers the MN initiated SN Release procedure to inform the source SN to stop providing user data to the UE, and triggers the Xn-U Address Indication procedure to inform the source SN the address of the selected target SN and if applicable, to start late data forwarding.

7. If the RRC connection reconfiguration procedure was successful, the MN informs the selected target SN via *SN Reconfiguration Complete* message, including the SN *RRCReconfigurationComplete\*\*\** response message for the target SN. The MN sends the *SN Release Request* messages to cancel CPC in the other target candidate SNs, if configured.

8. If configured with bearers requiring SCG radio resources the UE synchronizes to the selected SN indicated in *RRC reconfiguration\*\**.

9. If PDCP termination point is changed for bearers using RLC AM, the source SN sends the SN Status Transfer, which the MN sends then to the target selected SN, if needed.

10. If applicable, data forwarding from the source SN takes place. It may be initiated as early as the source SN receives the early data forwarding address in step 3.

11. The source SN sends the *Secondary RAT Data Usage Report* message to the MN and includes the data volumes delivered to and received from the UE as described in clause 10.11.2.

NOTE 5: The order the SN sends the *Secondary RAT Data Usage Report* message and performs data forwarding with MN is not defined. The SN may send the report when the transmission of the related QoS flow is stopped.

12-16. If applicable, a PDU Session path update procedure is triggered by the MN.

17. Upon reception of the *UE Context Release* message, the source SN releases radio and C-plane related resources associated to the UE context. Any ongoing data forwarding may continue.

**SN initiated conditional inter-SN Change**

The SN initiated conditional inter-SN change procedure is used for CPC configuration and CPC execution.

The SN initiated conditional inter-SN change procedure may also be initiated by the source SN, to modify the existing CPC configuration, or to trigger the release of the target SN by cancellation of all the prepared PSCells at the target SN and releasing the CPC related UE context at the target SN.

 **Figure 10.5.2-4: Conditional SN change procedure - SN initiated**

Figure 10.5.2-4 shows an example signalling flow for the conditional SN Change initiated by the SN:

1. The source SN initiates the conditional SN change procedure by sending the *SN Change Required* message, which a CPC initiation indication. The message also contains candidate target node ID(s) and may include the SCG configuration (to support delta configuration), and contains the measurements results which may include cells that are not CPC candidates. The message also includes a list of proposed PSCell candidates recommended by the source SN, including execution conditions, the upper limit for the number of PSCells, and may also include the SCG measurement configurations for CPC (e.g. measId(s)to be used for CPC).

2/3. The MN requests the target SN(s) to allocate resources for the UE by means of the SN Addition procedure(s), including a CPC initiation indication, and the measurements results which may include cells that are not CPC candidates received from the source SN to the target SN, and indicates the list of proposed PSCell candidates received from the source SN, but not including execution conditions. Within the list of PSCells, the SN decides the list of PSCell(s) to prepare and, for each prepared PSCell, the SN decides other SCG SCells and provides the new corresponding SCG radio resource configuration to the MN in an NR RRC configuration message (*RRCReconfiguration\*\*\*\**) contained in the SgNB Addition Request Acknowledge message. If data forwarding is needed, the target SN provides data forwarding addresses to the MN. The target SN includes the indication of the full or delta RRC configuration, and the list of prepared PSCell IDs to the MN. The target-SN can either accept or reject each of the candidate cells suggested by the Source-SN, i.e., it cannot come up with any alternative candidates.

4. The MN may indicate the candidate PSCells accepted by the target SN to the source SN via *SN Modification Request* message, if needed,, e.g., when T-SN does not acknowledge all candidate PSCells, otherwise step 4 and 5 are skipped, e.g. when T-SN accepts all candidate PScells.

5. The source SN may provide the updated measurement configurations and the execution conditions to the MN via *SN Modification Request Acknowledge* message.

6. The MN sends to the UE an *RRC reconfiguration* message (*RRC reconfiguration\**)including the CPC configuration, (i.e. a list of *RRC reconfiguration\*\*\** messages)and associated execution conditions, in which a *RRC reconfiguration\*\*\** messagecontains a *RRCReconfiguration\*\*\*\** received from the candidate SN and possibly an MCG configuration. Besides, the *RRC reconfiguration* message (*RRC reconfiguration\**)can also include the current MCG updated configuration, e.g., to configure the required conditional measurements, as well as the NR RRC configuration message (*RRCReconfiguration\*\**) generated by the source-SN.

7. The UE applies the RRC configuration (in *RRC reconfiguration\**) excluded the CPC configuration, stores the CPC configurationand replies to the MN with an *RRC reconfiguration complete* message (*RRC reconfiguration complete\**), which can include an NR RRC response message (*RRCReconfigutationComplete\*\**). In case the UE is unable to comply with (part of) the configuration included in the *RRC reconfiguration\** message, it performs the reconfiguration failure procedure.

8a. If an SN RRC response message is included, the MN informs the source SN with the SN RRC response message (*RRCReconfigutationComplete\*\**) for the source SN via *SN Change Confirm* message.

The MN sends the *SN Change Confirm* message towards the Source SN to indicate that CPC is prepared, and in such case the source SN continues providing user data to the UE. If early data forwarding is applied, the MN informs the source SN the data forwarding addresses as received from the target SN, the source SN, if applicable, together with the Early Status Transfer procedure, starts early data forwarding. The PDCP PDU and/or PDCP SDU forwarding may take place during early data forwarding. In case multiple Target SNs are prepared, the MN includes a list of Target SN ID and list of data forwarding addresses to the source SN.

9a-9d. The source SN may send the *SN Modification Required* message to trigger an update of CPC execution condition or corresponding SCG measConfig for CPC for the UE if any. In such case in step 9b and 9c, the MN reconfigures the UE as in step 6 and 7.

10. The UE starts evaluating the execution conditions. If the execution conditionof one candidate PSCell is satisfied, the UE applies *RRC reconfiguration* message(*RRC reconfiguration\*\*\**) corresponding to the selected candidate PSCell, and sends an *RRC reconfiguration complete* message (*RRC reconfiguration complete\*\*\**), including an NR RRC message (*RRCReconfigurationComplete\*\*\*\*)* for the selected candidate PSCell, and the selected PSCell information to the MN.

11a-11c. The MN triggers the MN initiated SN Release procedure to inform the source SN to stop providing user data to the UE, and triggers the Xn-U Address Indication procedure to inform the source SN the address of the selected target SN and if applicable, starts late data forwarding.

12. If the RRC connection reconfiguration procedure was successful, the MN informs the target SN via *SN Reconfiguration Complete* message, including the SN *RRCReconfigurationComplete\*\*\*\** response message for the target SN. The MN sends the *SN Release Request* messages to cancel CPC in the other target candidate SNs, if configured.

13. The UE synchronizes to the target SN indicated in *RRCConnectionReconfiguration\*\*\**.

14. If PDCP termination point is changed for bearers using RLC AM, the source SN sends the SN Status Transfer, which the MN sends then to the target SN, if needed.

15. If applicable, data forwarding from the source SN takes place. It may be initiated as early as the source SN receives the data forwarding address related information from the MN.

16. The source SN sends the *Secondary RAT Data Usage Report* message to the MN and includes the data volumes delivered to and received from the UE as described in clause 10.11.2.

NOTE 6: The order the SN sends the *Secondary RAT Data Usage Report* message and performs data forwarding with MN/target SN is not defined. The SN may send the report when the transmission of the related QoS flow is stopped.

17-21. If applicable, a PDU Session path update procedure is triggered by the MN.

22. Upon reception of the *UE Context Release* message, the source SN releases radio and C-plane related resources associated to the UE context. Any ongoing data forwarding may continue.

## *----------End of the Change--------------*