TSG-RAN Meeting #26
Athen, Greece, 08-10 December 2004

RP-040495
Agenda item 8.6

Source: TSG-RAN WG2.

8.2   Enhancement of support of network sharing in the UTRAN. CR to 25.331.

The following CR is in RP-040495:

Spec	CR	Rev	Phase	Subject	Cat	Version-Current	Version-New	Doc-2nd-Level	Workitem
25.331	2487	1	Rel-6	Network Sharing and multiple PLMN identities	B	6.3.0	6.4.0	R2-042736	NTShar-UTRANEnh

CR-Form-v7.1

CHANGE REQUEST

⌘ **25.331 CR 2487** ⌘**rev 1** ⌘ Current version: **6.3.0** ⌘

For **HELP** *on using this form, see bottom of this page or look at the pop-up text over the* ⌘ *symbols.*

Proposed change affects: UICC apps⌘ ☐ ME **X** Radio Access Network **X** Core Network ☐

Title: ⌘	Network Sharing and multiple PLMN identities	
Source: ⌘	RAN WG2	
Work item code:⌘	NTShar-UTRANEnh	*Date:* ⌘ Nov/2004
Category: ⌘ **B**		*Release:* ⌘ Rel-6

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction 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.

Use one of the following releases:
Ph2 *(GSM Phase 2)*
R96 *(Release 1996)*
R97 *(Release 1997)*
R98 *(Release 1998)*
R99 *(Release 1999)*
Rel-4 *(Release 4)*
Rel-5 *(Release 5)*
Rel-6 *(Release 6)*
Rel-7 *(Release 7)*

Reason for change: ⌘	As a part of the Work Item "Enhancement of the support of network sharing in the UTRAN" the SA1 requirement that UEs shall know what CN operators are available behind a shared RAN has to be fulfilled.
Summary of change:⌘	The broadcast system information is extended by incorporating upto 5 multiple PLMN identities in the MIB. The different PLMN identities correspond to the different CN operators behind the shared RAN. The multiple PLMN identities will be broadcast optionally (i.e. only in networks where network sharing is implemented) in addition to the PLMN identity already broadcast in the pre Rel-6 MIB.

The following procedure text updates are made:

1) It is described how the UE shall read the PLMN identities broadcast in the cell, and a term "PLMN identities of a cell" is introduced.
2) One of the PLMN identities of the cell is sent to UTRAN in INITIAL DIRECT TRANSFER message for usage at e.g. LA and RA updates.
3) It is stated that UTRAN may use this indicated PLMN information for routing among the CN nodes.
4) A note about PLMN identity in CN INFORMATION INFO IEs that are sent in cells broadcasting multiple PLMN identities is added.

The following ASN.1 code updates are made:

1) An IE called "Multiple PLMN List" is specified. It can hold upto 5 PLMN identities where MCC is optional. A boolean specifies whether the IE "PLMN |

2) An IE called "PLMN identity with Optional MCC" is specified. This IE is the same as the PLMN identity IE except that the MCC is optional.

3) The "Multiple PLMN List" is inserted in the Master Information Block as optional.

4) An IE "PLMN identity" is inserted into the INITIAL DIRECT TRANSFER Message. It specifies the PLMN identity of the cell that the UE is registered on, or wants to register on at registration requests.

5) An IE "PLMN identity" is inserted into the following messages: RADIO BEARER SETUP, RADIO BEARER RECONFIGURATION, RADIO BEARER RELEASE, TRANSPORT CHANNEL RECONFIGURATION, PHYSICAL CHANNEL RECONFIGURATION and UTRAN MOBILITY INFORMATION. If this PLMN identity is present, the UE replaces the PLMN identity in CN INFORMATION INFO with this PLMN. At combined hard handover and SRNS relocation procedure, the source RNC shall trigger the execution of relocation of SRNS by sending to the MS the RRC message provided in the Target RNC to source RNC transparent container, e.g., a Physical Channel Reconfiguration (containing CN Information Elements) message. For backwards compability to legacy RNCs, a PLMN identity is added into hard handover messages and UTRAN MOBILITY INFORMATION as optional.

Consequences if not approved:	⌘	The SA1 requirement is not fulfilled.

Clauses affected:	⌘	8.1.1.5, 8.1.8.2, 8.1.8.3, 8.2.2.3, 8.3.3.3, 8.6.1.2, 10.2.16c, 10.2.22, 10.2.27, 10.2.30, 10.2.33, 10.2.48.8.1, 10.2.50, 10.2.62, 10.3.1.7a (new), 10.3.1.11a (new) 10.3.3.37a (new), 11.2, 11.3

			Y	N			
Other specs affected:	⌘		X		Other core specifications	⌘	25.304 CR 124; 25.413 CR 701 and CR 715r2
				X	Test specifications		
				X	O&M Specifications		
Other comments:	⌘						

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

8.1.1.5 Actions upon reception of the Master Information Block and Scheduling Block(s)

When selecting a new cell, the UE shall read the master information block. The UE may use the pre-defined scheduling information to locate the master information block in the cell.

Upon reception of the master information block, the UE shall:

> 1> if the IE "Multiple PLMN List" is not present in the Master Information Block;

>> 2> consider the IE "PLMN identity" in the Master Information Block as the PLMN identity of the cell.

> 1> else;

>> 2> consider the PLMN identities in the IE "Multiple PLMN List" as the PLMN identities of the cell;

>> 2> when reading the "Multiple PLMN List", read all the PLMN identities in the list as follows:

>>> 3> if the IE "MIB PLMN Identity" is set to TRUE:

>>>> 4> read the "PLMN identity" IE in the MIB and consider it as a part of the "Multiple PLMN List";

>>> 3> if the IE "MIB PLMN Identity" is set to FALSE:

>>>> 4> not consider the "PLMN identity" IE in the MIB as a part of the "Multiple PLMN List";

>>>> 4> not consider the IE "PLMN identity" in the MIB as a PLMN identity of the cell;

>>>> 4> not forward the PLMN in the IE "PLMN identity" of the MIB to upper layers;

>>> 3> if the MCC is not present when reading a IE "PLMN identity with Optional MCC" in the IE "Multiple PLMN List":

>>>> 4> set the MCC of this PLMN identity equal to the MCC of the closest preceding "PLMN identity with Optional MCC" in the "Multiple PLMN List" that includes an MCC;

>>>> 4> or, if no such "PLMN identity with Optional MCC" exists, the UE shall set the MCC of this PLMN identity to the MCC of the "PLMN identity" IE in the Master Information Block.

> 1> if the "PLMN type" in the variable SELECTED_PLMN has the value "ANSI-41 "and the IE "PLMN Type" has the value "ANSI-41" or "GSM-MAP and ANSI-41":

>> 2> store the ANSI-41 Information elements contained in the master information block and perform initial process for ANSI-41.

> 1> compare the value tag in the master information block with the value tag stored for this cell and this PLMN in the variable VALUE_TAG;

> 1> if the value tags differ, or if no IEs for the master information block are stored:

>> 2> store the value tag into the variable VALUE_TAG for the master information block;

>> 2> read and store scheduling information included in the master information block.

> 1> if the value tags are the same the UE may use stored system information blocks and scheduling blocks using value tag that were stored for this cell and this PLMN as valid system information.

For all system information blocks or scheduling blocks that are supported by the UE referenced in the master information block or the scheduling blocks, the UE shall perform the following actions:

> 1> for all system information blocks with area scope "PLMN" or "Equivalent PLMN" that use value tags:

> > 2> compare the value tag read in scheduling information for that system information block with the value stored within the variable VALUE_TAG for that system information block;

> > 2> if the value tags differ, or if no IEs for the corresponding system information block are stored:

> > > 3> store the value tag read in scheduling information for that system information block into the variable VALUE_TAG;

> > > 3> read and store the IEs of that system information block.

> > 2> if the value tags are the same the UE may use stored system information blocks using value tag that were stored in this PLMN as valid system information.

> 1> for all system information blocks or scheduling blocks with area scope cell that use value tags:

> > 2> compare the value tag read in scheduling information for that system information block or scheduling block with the value stored within the variable VALUE_TAG for that system information block or scheduling block;

> > 2> if the value tags differ, or if no IEs for the corresponding system information block or scheduling block are stored:

> > > 3> store the value tag read in scheduling information for that system information block or scheduling block into the variable VALUE_TAG;

> > > 3> read and store the IEs of that system information block or scheduling block.

> > 2> if the value tags are the same the UE may use stored system information blocks using value tags that were stored for this cell and this PLMN as valid system information.

> 1> for system information blocks which may have multiple occurrences:

> > 2> compare the value tag and the configuration or multiple occurrence identity for the occurrence of the system information blocks read in scheduling information with the value tag and configuration or multiple occurrence identity stored within the variable VALUE_TAG:

> > > 3> if the value tags differ, or if no IEs from the occurrence with that configuration or multiple occurrence identity of the system information block are stored:

> > > > 4> store the value tag read in scheduling information for that system information block and the occurrence with that configuration or multiple occurrence identity into the variable VALUE_TAG;

> > > > 4> read and store the IEs of that system information block.

> > > 3> if the value tags and the configuration or multiple occurrence identity are identical to those stored, the UE may use stored occurrences of system information blocks that were stored for this cell and this PLMN as valid system information.

For system information blocks, not supported by the UE, but referenced either in the master information block or in the scheduling blocks, the UE may:

> 1> skip reading this system information block;

> 1> skip monitoring changes to this system information block.

If the UE:

> 1> receives a scheduling block at a position different from its position according to the scheduling information for the scheduling block; or

> 1> receives a scheduling block for which scheduling information has not been received:

the UE may:

> 1> store the content of the scheduling block with a value tag set to the value NULL; and

1> consider the content of the scheduling block as valid until it receives the same type of scheduling block in a position according to its scheduling information or at most for 6 hours after reception.

If the UE does not find a scheduling block in a position where it should be according to its scheduling information, but a transport block with correct CRC was found at that position, the UE shall:

1> read the scheduling information for this scheduling block.

If the UE does not find the master information block in a position fulfilling:

$$SFN \bmod 32 = 0$$

but a transport block with correct CRC was found at that position), the UE shall:

1> consider the master information block as not found; and

1> consider the cell to be barred according to [4]; and

1> consider the barred cell as using the value "allowed" in the IE "Intra-frequency cell re-selection indicator", and the maximum value in the IE "T_{barred}".

NOTE: This permits a different repetition for the MIB in later versions for FDD. In TDD it allows for a variable SIB_REP in this and future releases.

If system information block type 1 is not scheduled on BCH, and system information block type 13 is not scheduled on BCH, the UE shall:

1> consider the cell to be barred according to [4]; and

1> consider the barred cell as using the value "allowed" in the IE "Intra-frequency cell re-selection indicator", and the maximum value in the IE "T_{barred}".

If the UE only supports GSM-MAP but finds a cell that broadcasts System Information Block type 13 but not System Information Block type 1, the UE shall:

1> consider the cell barred.

If:

-    system information block type 1 is not scheduled on BCH; and

-    the "PLMN Type" in the variable SELECTED_PLMN has the value "GSM-MAP"; and

-    the IE "PLMN type" in the Master Information Block has the value "GSM-MAP" or "GSM-MAP and ANSI-41":

the UE shall:

1> indicate to upper layers that no CN system information is available.

If in idle mode and System Information Block type 3 is not scheduled on BCH, the UE shall:

1> consider the cell to be barred according to [4]; and

1> consider the barred cell as using the value "allowed" in the IE "Intra-frequency cell re-selection indicator", and the maximum value in the IE "T_{barred}".

If in connected mode and System Information Block type 3 is not scheduled on BCH, and System Information Block type 4 is not scheduled on BCH, the UE shall:

1> consider the cell to be barred according to [4]; and

1> consider the barred cell as using the value "allowed" in the IE "Intra-frequency cell re-selection indicator", and the maximum value in the IE "T_{barred}".

If in idle mode and neither System Information Block type 5 nor type 5bis is scheduled on BCH, or System Information Block type 5 or type 5bis is scheduled but IE "AICH info" (FDD) or IE "PICH info" is not present, the UE shall:

1> consider the cell to be barred according to [4]; and

1> consider the barred cell as using the value "allowed" in the IE "Intra-frequency cell re-selection indicator", and the maximum value in the IE "T$_{barred}$".

If in connected mode and neither System Information Block type 5 nor type 5bis is scheduled on BCH, and System Information Block type 6 is not scheduled on BCH, or any of System Information Block type 5, type 5bis or type 6 is scheduled but IE "AICH info" (FDD) or IE "PICH info" is not present, the UE shall:

1> consider the cell to be barred according to [4]; and

1> consider the barred cell as using the value "allowed" in the IE "Intra-frequency cell re-selection indicator", and the maximum value in the IE "T$_{barred}$".

If System Information Block type 7 is not scheduled on BCH, the UE shall:

1> consider the cell to be barred according to [4]; and

1> consider the barred cell as using the value "allowed" in the IE "Intra-frequency cell re-selection indicator", and the maximum value in the IE "T$_{barred}$".

In 3.84 Mcps TDD, if System Information Block type 14 is not scheduled on BCH, the UE shall:

1> consider the cell to be barred according to [4]; and

1> consider the barred cell as using the value "allowed" in the IE "Intra-frequency cell re-selection indicator", and the maximum value in the IE "T$_{barred}$".

<mark>----------- Next Modified Section ------------</mark>

8.1.8 Initial Direct transfer
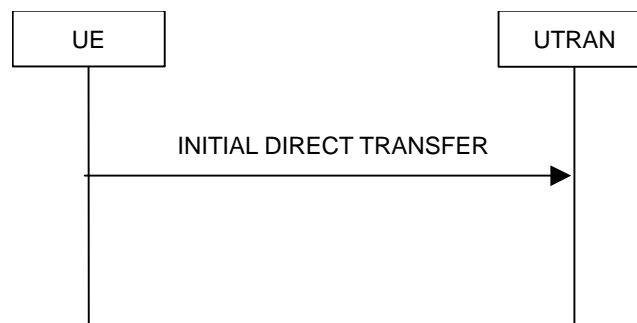
Figure 8.1.8-1: Initial Direct transfer in the uplink, normal flow

8.1.8.1 General

The initial direct transfer procedure is used in the uplink to establish a signalling connection. It is also used to carry an initial upper layer (NAS) message over the radio interface.

8.1.8.2 Initiation of Initial direct transfer procedure in the UE

In the UE, the initial direct transfer procedure shall be initiated, when the upper layers request establishment of a signalling connection. This request also includes a request for the transfer of a NAS message.

Upon initiation of the initial direct transfer procedure the UE shall:

1> set the variable ESTABLISHMENT_CAUSE to the cause for establishment indicated by upper layers.

Upon initiation of the initial direct transfer procedure when the UE is in idle mode, the UE shall:

1> perform an RRC connection establishment procedure, according to subclause 8.1.3;

1> if the RRC connection establishment procedure was not successful:

2> indicate failure to establish the signalling connection to upper layers and end the procedure.

1> when the RRC connection establishment procedure is completed successfully:

2> continue with the initial direct transfer procedure as below.

Upon initiation of the initial direct transfer procedure when the UE is in CELL_PCH or URA_PCH state, the UE shall:

1> perform a cell update procedure, according to subclause 8.3.1, using the cause "uplink data transmission";

1> when the cell update procedure completed successfully:

2> continue with the initial direct transfer procedure as below.

The UE shall, in the INITIAL DIRECT TRANSFER message:

1> set the IE "NAS message" as received from upper layers; and

1> set the IE "CN domain identity" as indicated by the upper layers; and

1> set the IE "Intra Domain NAS Node Selector" as follows:

2> derive the IE "Intra Domain NAS Node Selector" from TMSI/PMTSI, IMSI, or IMEI; and

2> provide the coding of the IE "Intra Domain NAS Node Selector" according to the following priorities:

1. derive the routing parameter for IDNNS from TMSI (CS domain) or PTMSI (PS domain) whenever a valid TMSI/PTMSI is available;

2. base the routing parameter for IDNNS on IMSI when no valid TMSI/PTMSI is available;

3. base the routing parameter for IDNNS on IMEI only if no (U)SIM is inserted in the UE.

1> if the initial direct transfer procedure is initiated in idle mode or connected mode but in a state which is not CELL_DCH state:

2> if the IE "Multiple PLMN List" is broadcast in the current serving cell:

3> set the IE "PLMN identity" to indicate the multiple PLMN chosen by the UE.

1> if the variable ESTABLISHMENT_CAUSE_ is initialised:

2> set the IE "Establishment cause" to the value of the variable ESTABLISHMENT_CAUSE;

2> clear the variable ESTABLISHMENT_CAUSE.

1> calculate the START according to subclause 8.5.9 for the CN domain as set in the IE "CN Domain Identity"; and

1> include the calculated START value for that CN domain in the IE "START".

The UE shall:

1> transmit the INITIAL DIRECT TRANSFER message on the uplink DCCH using AM RLC on signalling radio bearer RB3;

1> when the INITIAL DIRECT TRANSFER message has been submitted to lower layers for transmission:

2> confirm the establishment of a signalling connection to upper layers; and

2> add the signalling connection with the identity indicated by the IE "CN domain identity" in the variable ESTABLISHED_SIGNALLING_CONNECTIONS.

1> when the successful delivery of the INITIAL DIRECT TRANSFER message has been confirmed by RLC:

2> the procedure ends.

When not stated otherwise elsewhere, the UE may also initiate the initial direct transfer procedure when another procedure is ongoing, and in that case the state of the latter procedure shall not be affected.

A new signalling connection request may be received from upper layers during transition to idle mode. In those cases, from the time of the indication of release to upper layers until the UE has entered idle mode, any such upper layer request to establish a new signalling connection shall be queued. This request shall be processed after the UE has entered idle mode.

8.1.8.2a RLC re-establishment or inter-RAT change

If a re-establishment of the transmitting side of the RLC entity on signalling radio bearer RB3 occurs before the successful delivery of the INITIAL DIRECT TRANSFER message has been confirmed by RLC, the UE shall:

1> retransmit the INITIAL DIRECT TRANSFER message on the uplink DCCH using AM RLC on signalling radio bearer RB3.

If an Inter-RAT handover from UTRAN procedure occurs before the successful delivery of the INITIAL DIRECT TRANSFER message has been confirmed by RLC, for messages with the IE "CN domain identity" set to "CS domain", the UE shall:

1> retransmit the NAS message as specified in subclause 8.3.7.4.

8.1.8.2ab Inter-RAT handover from UTRAN to GERAN *Iu mode*

If an Inter-RAT handover from UTRAN to GERAN *Iu mode* occurs before the successful delivery of the INITIAL DIRECT TRANSFER message has been confirmed by RLC, for messages for all CN domains, the UE shall:

1> retransmit the NAS message as specified in subclause 8.3.7.4.

8.1.8.2b Abortion of signalling connection establishment

If the UE receives a request from upper layers to release (abort) the signalling connection for the CN domain for which the initial direct transfer procedure is ongoing, the UE shall:

1> if the UE has not yet entered UTRA RRC connected mode:

2> abort the RRC connection establishment procedure as specified in subclause 8.1.3;

the procedure ends.

8.1.8.3 Reception of INITIAL DIRECT TRANSFER message by the UTRAN

On reception of the INITIAL DIRECT TRANSFER message the NAS message should be routed using the IE "CN Domain Identity". UTRAN may also use the IE "Intra Domain NAS Node Selector" and the IE "PLMN identity" for routing among the CN nodes for the addressed CN domain.

If no signalling connection exists towards the chosen node, then a signalling connection is established.

When the UTRAN receives an INITIAL DIRECT TRANSFER message, it shall not affect the state of any other ongoing RRC procedures, when not stated otherwise elsewhere.

The UTRAN should:

1> set the START value for the CN domain indicated in the IE "CN domain identity" to the value of the IE "START".

8.1.9 Downlink Direct transfer

Figure 8.1.9-1: Downlink Direct transfer, normal flow

8.1.9.1 General

The downlink direct transfer procedure is used in the downlink direction to carry upper layer (NAS) messages over the radio interface.

<mark>----------- Next Modified Section ------------</mark>

8.2.2.3 Reception of RADIO BEARER SETUP or RADIO BEARER RECONFIGURATION or RADIO BEARER RELEASE or TRANSPORT CHANNEL RECONFIGURATION or PHYSICAL CHANNEL RECONFIGURATION message by the UE

The UE shall:

> 1> be able to receive any of the following messages:

>> 2> RADIO BEARER SETUP message; or

>> 2> RADIO BEARER RECONFIGURATION message; or

>> 2> RADIO BEARER RELEASE message; or

>> 2> TRANSPORT CHANNEL RECONFIGURATION message; or

>> 2> PHYSICAL CHANNEL RECONFIGURATION message;

> 1> be able to perform a hard handover and apply physical layer synchronisation procedure A as specified in [29], even if no prior UE measurements have been performed on the target cell and/or frequency.

In case the reconfiguration procedure is used to remove all existing RL(s) in the active set while new RL(s) are established the UE shall:

> 1> if the UE has a pending "TGPS reconfiguration CFN" at the activation time received in the reconfiguration message and the reconfiguration requests a timing re-initialised hard handover (see subclause 8.3.5.1), the UE may:

>> 2> abort the pending CM activation;

>> 2> set the CM_PATTERN_ACTIVATION_ABORTED to TRUE.

> 1> otherwise:

>> 2> set the CM_PATTERN_ACTIVATION_ABORTED to FALSE.

If the UE receives:

- a RADIO BEARER SETUP message; or

- a RADIO BEARER RECONFIGURATION message; or

- a RADIO BEARER RELEASE message; or

- a TRANSPORT CHANNEL RECONFIGURATION message; or

- a PHYSICAL CHANNEL RECONFIGURATION message:

it shall:

1> set the variable ORDERED_RECONFIGURATION to TRUE;

1> if the UE will enter the CELL_DCH state from any state other than CELL_DCH state at the conclusion of this procedure:

2> perform the physical layer synchronisation procedure A as specified in [29] (FDD only).

1> act upon all received information elements as specified in subclause 8.6, unless specified in the following and perform the actions below.

The UE may:

1> maintain a list of the set of cells to which the UE has Radio Links if the IE "Cell ID" is present.

The UE may first release the physical channel configuration used at reception of the reconfiguration message. The UE shall then:

1> in FDD, if the IE "PDSCH code mapping" is included but the IE "PDSCH with SHO DCH Info" is not included and if the DCH has only one link in its active set:

2> act upon the IE "PDSCH code mapping" as specified in subclause 8.6; and

2> infer that the PDSCH will be transmitted from the cell from which the downlink DPCH is transmitted.

1> enter a state according to subclause 8.6.3.3.

In case the UE receives a RADIO BEARER RECONFIGURATION message including the IE "RB information to reconfigure" that only includes the IE "RB identity", the UE shall:

1> handle the message as if IE "RB information to reconfigure" was absent.

NOTE: The RADIO BEARER RECONFIGURATION message always includes the IE "RB information to reconfigure". UTRAN has to include it even if it does not require the reconfiguration of any RB.

If after state transition the UE enters CELL_DCH state, the UE shall, after the state transition:

1> in FDD; or

1> in TDD when "Primary CCPCH Info" is included indicating a new target cell and "New C-RNTI" is not specified:

2> remove any C-RNTI from MAC;

2> clear the variable C_RNTI.

If after state transition the UE leaves CELL_DCH state, the UE shall, after the state transition:

1> clear any stored IE "Downlink HS-PDSCH information";

1> determine the value for the HS_DSCH_RECEPTION variable and take the corresponding actions as described in subclause 8.5.25.

In FDD, if after state transition the UE leaves CELL_DCH state, the UE shall, after the state transition:

1> remove any DSCH-RNTI from MAC;

1> clear the variable DSCH_RNTI.

If the UE was in CELL_DCH state upon reception of the reconfiguration message and remains in CELL_DCH state, the UE shall:

1> if the IE "Uplink DPCH Info" is absent, not change its current UL Physical channel configuration;

1> in TDD:

2> if "Primary CCPCH Info" is included indicating a new target cell and "New C-RNTI" is not specified:

3> remove any C-RNTI from MAC;

3> clear the variable C_RNTI.

1> if "DPCH frame offset" is included for one or more RLs in the active set:

2> use its value to determine the beginning of the DPCH frame in accordance with the following:

3> if the received IE "DPCH frame offset" is across the value range border compared to the DPCH frame offset currently used by the UE:

4> consider it to be a request to adjust the timing with 256 chips across the frame border (e.g. if the UE receives value 0 while the value currently used is 38144 consider this as a request to adjust the timing with +256 chips).

3> if after taking into account value range borders, the received IE "DPCH frame offset" corresponds to a request to adjust the timing with a step exceeding 256 chips:

4> set the variable INVALID_CONFIGURATION to TRUE.

3> and the procedure ends.

2> adjust the radio link timing accordingly.

If after state transition the UE enters CELL_FACH state, the UE shall, after the state transition:

1> if the IE "Frequency info" is included in the received reconfiguration message:

2> select a suitable UTRA cell according to [4] on that frequency;

2> if the UE finds a suitable UTRA cell on that frequency:

3> if the received reconfiguration message included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selects another cell than indicated by this IE or the received reconfiguration message did not include the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD):

4> initiate a cell update procedure according to subclause 8.3.1 using the cause "Cell reselection";

4> when the cell update procedure completed successfully:

5> if the UE is in CELL_PCH or URA_PCH state, initiate a cell update procedure according to subclause 8.3.1 using the cause "Uplink data transmission" and proceed as below.

2> else, if the UE can not find a suitable UTRA cell on that frequency but it finds a suitable UTRA cell on another frequency:

3> initiate a cell update procedure according to subclause 8.3.1 using the cause "Cell reselection";

3> when the cell update procedure completed successfully:

4> if the UE is in CELL_PCH or URA_PCH state, initiate a cell update procedure according to subclause 8.3.1 using the cause "Uplink data transmission" and proceed as below.

1> if the IE "Frequency info" is not included in the received reconfiguration message:

2> select a suitable UTRA cell according to [4];

  2> if the UE finds a suitable UTRA cell on the current frequency:

    3> if the received reconfiguration message included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selects another cell than indicated by this IE or the received reconfiguration message did not include the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD):

      4> initiate a cell update procedure according to subclause 8.3.1 using the cause "Cell reselection";

      4> when the cell update procedure completed successfully:

        5> if the UE is in CELL_PCH or URA_PCH state, initiate a cell update procedure according to subclause 8.3.1 using the cause "Uplink data transmission" and proceed as below.

  2> else, if the UE can not find a suitable UTRA cell on the current frequency but it finds a suitable UTRA cell on another frequency:

    3> initiate a cell update procedure according to subclause 8.3.1 using the cause "Cell reselection";

    3> when the cell update procedure completed successfully:

      4> if the UE is in CELL_PCH or URA_PCH state, initiate a cell update procedure according to subclause 8.3.1 using the cause "Uplink data transmission" and proceed as below.

1> start timer T305 using its initial value if timer T305 is not running and if periodical update has been configured by T305 in the IE "UE Timers and constants in connected mode" set to any other value than "infinity" in the variable TIMERS_AND_CONSTANTS;

1> select PRACH according to subclause 8.5.17;

1> select Secondary CCPCH according to subclause 8.5.19;

1> use the transport format set given in system information;

1> if the IE "UTRAN DRX cycle length coefficient" is included in the same message:

  2> ignore that IE and stop using DRX.

1> if the contents of the variable C_RNTI is empty:

  2> perform a cell update procedure according to subclause 8.3.1 using the cause "Cell reselection";

  2> when the cell update procedure completed successfully:

    3> if the UE is in CELL_PCH or URA_PCH state:

      4> initiate a cell update procedure according to subclause 8.3.1 using the cause "Uplink data transmission";

      4> proceed as below.

If the UE was in CELL_FACH state upon reception of the reconfiguration message and remains in CELL_FACH state, the UE shall:

1> if the IE "Frequency info" is included in the received reconfiguration message:

  2> select a suitable UTRA cell according to [4] on that frequency;

  2> if the UE finds a suitable UTRA cell on that frequency:

    3> if the received reconfiguration message included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selected another cell than indicated by this IE or the received reconfiguration message did not include the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD):

      4> initiate a cell update procedure according to subclause 8.3.1 using the cause "cell reselection";

>>>>4> when the cell update procedure completed successfully:

>>>>>5> if the UE is in CELL_PCH or URA_PCH state, initiate a cell update procedure according to subclause 8.3.1 using the cause "Uplink data transmission" and proceed as below.

>>2> else, if the UE can not find a suitable UTRA cell on that frequency but it finds a suitable UTRA cell on another frequency:

>>>3> initiate a cell update procedure according to subclause 8.3.1 using the cause "Cell reselection";

>>>3> when the cell update procedure completed successfully:

>>>>4> if the UE is in CELL_PCH or URA_PCH state, initiate a cell update procedure according to subclause 8.3.1 using the cause "Uplink data transmission" and proceed as below.

>1> if the IE "Frequency info" is not included in the received reconfiguration message:

>>2> if the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD) is included the UE shall either:

>>>3> ignore the content of the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD) and proceed as below;

>>2> or:

>>>3> if the received reconfiguration message included the IE "Primary CPICH info" (for FDD) or "Primary CPCH info" (for TDD), and it is different from the current cell:

>>>>4> initiate a cell update procedure according to subclause 8.3.1 using the cause "Cell reselection";

>>>>4> when the cell update procedure completed successfully:

>>>>>5> if the UE is in CELL_PCH or URA_PCH state, initiate a cell update procedure according to subclause 8.3.1 using the cause "Uplink data transmission" and proceed as below.

If after state transition the UE enters CELL_PCH or URA_PCH state, the UE shall:

>1> if the IE "UTRAN DRX cycle length coefficient" is not included in the same message:

>>2> set the variable INVALID_CONFIGURATION to TRUE.

The UE shall transmit a response message as specified in subclause 8.2.2.4, setting the information elements as specified below. The UE shall:

>1> if the received reconfiguration message included the IE "Downlink counter synchronisation info"; or

>1> if the received reconfiguration message is a RADIO BEARER RECONFIGURATION and the IE "New U-RNTI" is included:

>>2> if the variable PDCP_SN_INFO is empty:

>>>3> configure the corresponding RLC entity for all AM and UM radio bearers and AM and UM signalling radio bearers except RB2 to "stop".

>>2> else:

>>>3> configure the RLC entity for signalling radio bearers RB1, RB3 and RB4 to "stop";

>>>3> configure the RLC entity for UM and AM radio bearers for which the IE "PDCP SN Info" is not included to "stop".

>>2> re-establish the RLC entity for RB2;

>>2> for the downlink and the uplink, apply the ciphering configuration as follows:

>>>3> if the received re-configuation message included the IE "Ciphering Mode Info":

>>>>4> use the ciphering configuration in the received message when transmitting the response message.

>>> 3> if the ciphering configuration for RB2 from a previously received SECURITY MODE COMMAND has not yet been applied because the activation times not having been reached:

>>>> 4> if the previous SECURITY MODE COMMAND was received due to new keys being received:

>>>>> 5> consider the new ciphering configuration to include the received new keys;

>>>>> 5> initialise the HFN component of the uplink COUNT-C and downlink COUNT-C of SRB2 as indicated in subclause 8.1.12.3.1.

>>>> 4> if the ciphering configuration for RB2 from a previously received SECURITY MODE COMMAND has not yet been applied because of the corresponding activation times not having been reached and the previous SECURITY MODE COMMAND caused a change in LATEST_CONFIGURED_CN_DOMAIN:

>>>>> 5> consider the new ciphering configuration to include the keys associated with the LATEST_CONFIGURED_CN_DOMAIN;

>>>>> 5> initialise the HFN component of the uplink COUNT-C and downlink COUNT-C of SRB2 to the most recently transmitted IE "START list" or IE "START" for the LATEST_CONFIGURED_CN_DOMAIN at the reception of the previous SECURITY MODE COMMAND.

>>>> 4> apply the new ciphering configuration immediately following RLC re-establishment.

>>> 3> else:

>>>> 4> continue using the current ciphering configuration.

>> 2> set the new uplink and downlink HFN component of COUNT-C of RB2 to MAX(uplink HFN component of COUNT-C of RB2, downlink HFN component of COUNT-C of RB2);

>> 2> increment by one the downlink and uplink values of the HFN of COUNT-C for RB2;

>> 2> calculate the START value according to subclause 8.5.9;

>> 2> include the calculated START values for each CN domain in the IE "START list" in the IE "Uplink counter synchronisation info".

> 1> if the received reconfiguration message did not include the IE "Downlink counter synchronisation info":

>> 2> if the variable START_VALUE_TO_TRANSMIT is set:

>>> 3> include and set the IE "START" to the value of that variable.

>> 2> if the variable START_VALUE_TO_TRANSMIT is not set and the IE "New U-RNTI" is included:

>>> 3> calculate the START value according to subclause 8.5.9;

>>> 3> include the calculated START values for each CN domain in the IE "START list" in the IE "Uplink counter synchronisation info".

>> 2> if the received reconfiguration message caused a change in the RLC size for any RB using RLC-AM:

>>> 3> calculate the START value according to subclause 8.5.9;

>>> 3> include the calculated START values for the CN domain associated with the corresponding RB identity in the IE "START list" in the IE "Uplink counter synchronisation info".

> 1> if the received reconfiguration message contained the IE "Ciphering mode info" or contained the IE "Integrity protection mode info":

>> 2> set the IE "Status" in the variable SECURITY_MODIFICATION for all the CN domains in the variable SECURITY_MODIFICATION to "Affected".

> 1> if the received reconfiguration message contained the IE "Ciphering mode info":

2> if the reconfiguration message is not used to perform SRNS relocation with change of ciphering algorithm:

   3> the UE behaviour is not specified.

2> if the message is used to perform a timing re-initialised hard handover:

   3> if IE "Ciphering activation time for DPCH" is included:

      4> the UE behaviour is not specified.

2> else:

   3> if the reconfiguration message is used to setup radio bearer(s) using RLC-TM; or

   3> if radio bearer(s) using RLC-TM already exist:

      4> if IE "Ciphering activation time for DPCH" is not included:

         5> the UE behaviour is not specified.

2> include and set the IE "Radio bearer uplink ciphering activation time info" to the value of the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO.

1> if the received reconfiguration message did not contain the IE "Ciphering activation time for DPCH" in IE "Ciphering mode info":

   2> if prior to this procedure there exist no transparent mode RLC radio bearers:

      3> if, at the conclusion of this procedure, the UE will be in CELL_DCH state; and

      3> if, at the conclusion of this procedure, at least one transparent mode RLC radio bearer exists:

         4> include the IE "COUNT-C activation time" and specify a CFN value for this IE that is a multiple of 8 frames (CFN mod 8 = 0) and lies at least 200 frames ahead of the CFN in which the response message is first transmitted.

   NOTE: UTRAN should not include the IE "Ciphering mode info" in any reconfiguration message unless it is also used to perform an SRNS relocation with change of ciphering algorithm.

1> set the IE "RRC transaction identifier" to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and

1> clear that entry;

1> if the variable PDCP_SN_INFO is not empty:

   2> include the IE "RB with PDCP information list" and set it to the value of the variable PDCP_SN_INFO.

1> in TDD, if the procedure is used to perform a handover to a cell where timing advance is enabled, and the UE can calculate the timing advance value in the new cell (i.e. in a synchronous TDD network):

   2> set the IE "Uplink Timing Advance" according to subclause 8.6.6.26.

1> if the IE "Integrity protection mode info" was present in the received reconfiguration message:

   2> start applying the new integrity protection configuration in the uplink for signalling radio bearer RB2 from and including the transmitted response message.

If after state transition the UE enters URA_PCH state, the UE shall, after the state transition and transmission of the response message:

1> if the IE "Frequency info" is included in the received reconfiguration message:

   2> select a suitable UTRA cell according to [4] on that frequency.

   2> if the UE can not find a suitable UTRA cell on that frequency but it finds a suitable UTRA cell on another frequency:

> 3> proceed as below.

1> if the IE "Frequency info" is not included in the received reconfiguration message:

> 2> select a suitable UTRA cell according to [4].

1> prohibit periodical status transmission in RLC;

1> remove any C-RNTI from MAC;

1> clear the variable C_RNTI;

1> start timer T305 using its initial value if timer T305 is not running and if periodical update has been configured by T305 in the IE "UE Timers and constants in connected mode" set to any other value than "infinity" in the variable TIMERS_AND_CONSTANTS;

1> select Secondary CCPCH according to subclause 8.5.19;

1> if the IE "UTRAN DRX cycle length coefficient" is included in the same message:

> 2> use the value in the IE "UTRAN DRX Cycle length coefficient" for calculating Paging occasion and PICH Monitoring Occasion as specified in subclause 8.6.3.2.

1> if the criteria for URA update caused by "URA reselection" according to subclause 8.3.1 are fulfilled after cell selection:

> 2> initiate a URA update procedure according to subclause 8.3.1 using the cause "URA reselection";

> 2> when the URA update procedure is successfully completed:

> > 3> the procedure ends.

If after state transition the UE enters CELL_PCH state from CELL_DCH state, the UE shall, after the state transition and transmission of the response message:

1> if the IE "Frequency info" is included in the received reconfiguration message:

> 2> select a suitable UTRA cell according to [4] on that frequency.

> 2> if the UE finds a suitable UTRA cell on that frequency:

> > 3> if the received reconfiguration message included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selects another cell than indicated by this IE or the received reconfiguration message did not include the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD):

> > > 4> initiate a cell update procedure according to subclause 8.3.1 using the cause "Cell reselection";

> > > 4> proceed as below.

> 2> else, if the UE can not find a suitable UTRA cell on that frequency but it finds a suitable UTRA cell on another frequency:

> > 3> initiate a cell update procedure according to subclause 8.3.1 using the cause "Cell reselection";

> > 3> proceed as below.

1> if the IE "Frequency info" is not included in the received reconfiguration message:

> 2> select a suitable UTRA cell according to [4].

> 2> if the UE finds a suitable UTRA cell on the current frequency:

> > 3> if the received reconfiguration message included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selects another cell than indicated by this IE or the received reconfiguration message did not include the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD):

4> initiate a cell update procedure according to subclause 8.3.1 using the cause "Cell reselection";

4> proceed as below.

2> else, if the UE can not find a suitable UTRA cell on the current frequency but it finds a suitable UTRA cell on another frequency:

3> initiate a cell update procedure according to subclause 8.3.1 using the cause "Cell reselection";

3> proceed as below.

1> prohibit periodical status transmission in RLC;

1> remove any C-RNTI from MAC;

1> clear the variable C_RNTI;

1> start timer T305 using its initial value if timer T305 is not running and if periodical update has been configured by T305 in the IE "UE Timers and constants in connected mode" set to any other value than "infinity" in the variable TIMERS_AND_CONSTANTS;

1> select Secondary CCPCH according to subclause 8.5.19;

1> if the IE "UTRAN DRX cycle length coefficient" is included in the same message:

2> use the value in the IE "UTRAN DRX Cycle length coefficient" for calculating Paging occasion and PICH Monitoring Occasion as specified in subclause 8.6.3.2.

1> the procedure ends.

If after state transition the UE enters CELL_PCH state from CELL_FACH state, the UE shall, after the state transition and transmission of the response message:

1> if the IE "Frequency info" is included in the received reconfiguration message:

2> select a suitable UTRA cell according to [4] on that frequency.

2> if the UE finds a suitable UTRA cell on that frequency:

3> if the received reconfiguration message included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selected another cell than indicated by this IE or the received reconfiguration message did not include the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD):

4> initiate a cell update procedure according to subclause 8.3.1 using the cause "cell reselection";

4> proceed as below.

2> else, if the UE can not find a suitable UTRA cell on that frequency but it finds a suitable UTRA cell on another frequency:

3> initiate a cell update procedure according to subclause 8.3.1 using the cause "Cell reselection";

3> proceed as below.

1> if the IE "Frequency info" is not included in the received reconfiguration message:

2> if the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD) is included the UE shall either:

3> ignore the content of the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD) and proceed as below;

2> or:

3> if the received reconfiguration message included the IE "Primary CPICH info" (for FDD) or "Primary CPCH info" (for TDD), and it is different from the current cell:

    4> initiate a cell update procedure according to subclause 8.3.1 using the cause "Cell reselection";

    4> proceed as below.

1> prohibit periodical status transmission in RLC;

1> remove any C-RNTI from MAC;

1> clear the variable C_RNTI;

1> start timer T305 using its initial value if timer T305 is not running and if periodical update has been configured by T305 in the IE "UE Timers and constants in connected mode" set to any other value than "infinity" in the variable TIMERS_AND_CONSTANTS;

1> select Secondary CCPCH according to subclause 8.5.19;

1> if the IE "UTRAN DRX cycle length coefficient" is included in the same message:

    2> use the value in the IE "UTRAN DRX Cycle length coefficient" for calculating Paging occasion and PICH Monitoring Occasion as specified in subclause 8.6.3.2.

1> the procedure ends.

The UE shall:

  1> if the any of the messages contain the IE "PLMN Identity":

    2> replace the PLMN identity in CN information info with this PLMN indentity, even if CN information info do not contain any PLMN identity.

    NOTE: At handover to a target cell broadcasting multiple PLMN identities, the IE PLMN identity in these messages should contain the PLMN identity signalled in RANAP RELOCATION REQUEST at handovers.

------------ Next Modified Section -------------

8.3.3.3 Reception of UTRAN MOBILITY INFORMATION message by the UE

When the UE receives a UTRAN MOBILITY INFORMATION message, it shall:

1> act on received information elements as specified in subclause 8.6;

1> if the IE "UE Timers and constants in connected mode" is present:

    2> store the values of the IE "UE Timers and constants in connected mode" in the variable TIMERS_AND_CONSTANTS, replacing any previously stored value for each timer and constant; and

    2> for each updated timer value:

      3> start using the new value next time the timer is started;

NOTE: If a new value of timer T305 is included in the IE "UE Timers and constants in connected mode", and the old value of timer T305 is "infinity", the UE will not use the new value of the timer T305 until the next cell reselection.

    2> for each updated constant value:

      3> start using the new value directly;

1> if the IE "CN domain specific DRX cycle length coefficient" is present:

    2> store the value of the IE "CN domain specific DRX cycle length coefficient" for that CN domain, replacing any previously stored value; and

    2> use the value to determine the connected mode paging occasions according to [4].

1> set the IE "RRC transaction identifier" in the UTRAN MOBILITY INFORMATION CONFIRM message to the value of "RRC transaction identifier" in the entry for the UTRAN MOBILITY INFORMATION message in the table "Accepted transactions" in the variable TRANSACTIONS; and

1> clear that entry;

1> if the UTRAN MOBILITY INFORMATION message contained the IE "Ciphering mode info" or contained the IE "Integrity protection mode info":

   2> set the IE "Status" in the variable SECURITY_MODIFICATION for all the CN domains in the variable SECURITY_MODIFICATION to "Affected";

1> if the UTRAN MOBILITY INFORMATION message contained the IE "Ciphering mode info":

   2> include and set the IE "Radio bearer uplink ciphering activation time info" to the value of the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO.

1> if the variable PDCP_SN_INFO is non-empty:

   2> include the IE "RB with PDCP information list" in the UTRAN MOBILITY INFORMATION CONFIRM message and set it to the value of the variable PDCP_SN_INFO.

1> if the received UTRAN MOBILITY INFORMATION message included the IE "Downlink counter synchronisation info":

   2> if the variable PDCP_SN_INFO is empty:

      3> configure the corresponding RLC entity for all AM and UM radio bearers and AM and UM signalling radio bearers except RB2 to "stop".

   2> else:

      3> configure the RLC entity for signalling radio bearers RB1, RB3 and RB4 to "stop";

      3> configure the RLC entity for UM and AM radio bearers for which the IE "PDCP SN Info" is not included to "stop".

   2> re-establish the RLC entity for RB2;

   2> for the downlink and the uplink, apply the ciphering configuration as follows:

      3> if the received re-configuration message included the IE "Ciphering Mode Info":

         4> use the ciphering configuration in the received message when transmitting the response message.

      3> if the ciphering configuration for RB2 from a previously received SECURITY MODE COMMAND has not yet been applied because the activation times not having been reached:

         4> if the previous SECURITY MODE COMMAND was received due to new keys being received:

            5> consider the new ciphering configuration to include the received new keys;

            5> initialise the HFN component of the uplink COUNT-C and downlink COUNT-C of SRB2 as indicated in subclause 8.1.12.3.1.

         4> if the ciphering configuration for RB2 from a previously received SECURITY MODE COMMAND has not yet been applied because of the corresponding activation times not having been reached and the previous SECURITY MODE COMMAND caused a change in LATEST_CONFIGURED_CN_DOMAIN:

            5> consider the new ciphering configuration to include the keys associated with the LATEST_CONFIGURED_CN_DOMAIN;

            5> initialise the HFN component of the uplink COUNT-C and downlink COUNT-C of SRB2 to the most recently transmitted IE "START list" or IE "START" for the LATEST_CONFIGURED_CN_DOMAIN at the reception of the previous SECURITY MODE COMMAND.

4> apply the new ciphering configuration immediately following RLC re-establishment.

3> else:

4> continue using the current ciphering configuration.

2> set the new uplink and downlink HFN component of COUNT-C of RB2 to MAX(uplink HFN component of COUNT-C of RB2, downlink HFN component of COUNT-C of RB2);

2> increment by one the downlink and uplink values of the HFN component of COUNT-C for RB2;

2> calculate the START value according to subclause 8.5.9;

2> include the calculated START values for each CN domain in the IE "START list" in the IE "Uplink counter synchronisation info" in the UTRAN MOBILITY INFORMATION CONFIRM message.

1> transmit a UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC;

1> if the IE "Integrity protection mode info" was present in the UTRAN MOBILITY INFORMATION message:

2> start applying the new integrity protection configuration in the uplink for signalling radio bearer RB2 from and including the transmitted UTRAN MOBILITY INFORMATION CONFIRM message.

1> if the IE "Downlink counter synchronisation info" was included in the received UTRAN MOBILITY INFORMATION message:

2> when RLC has confirmed the successful transmission of the response message:

3> if the variable PDCP_SN_INFO is empty:

4> configure the RLC entity for all AM and UM radio bearers and AM and UM signalling radio bearers except RB2 to "continue".

3> else:

4> configure the RLC entity for signalling radio bearers RB1, RB3 and RB4 to "continue";

4> configure the RLC entity for UM and AM radio bearers for which the IE "PDCP SN Info" is not included to "continue".

3> re-establish all AM and UM RLC entities with RB identities larger than 4 and set the first 20 bits of all the HFN component of the respective COUNT-C values to the START value included in the response message for the corresponding CN domain;

3> re-establish the RLC entities with RB identities 1, 3 and 4 and set the first 20 bits of all the HFN component of the respective COUNT-C values to the START value included in the response message for the CN domain stored in the variable LATEST_CONFIGURED_CN_DOMAIN;

3> set the remaining bits of the HFN component of the COUNT-C values of all UM RLC entities to zero;

3> if the IE "PDCP context relocation info" is not present:

4> re-initialise the PDCP header compression entities of each radio bearer in the variable ESTABLISHED_RABS as specified in [36].

3> if the IE "PDCP context relocation info" is present:

4> perform the actions as specified in subclause 8.6.4.13.

1> if the variable PDCP_SN_INFO is empty; and

2> if the UTRAN MOBILITY INFORMATION message contained the IE "Ciphering mode info":

3> when RLC has confirmed the successful transmission of the UTRAN MOBILITY INFORMATION CONFIRM message:

4> perform the actions below:

  2> if the UTRAN MOBILITY INFORMATION message did not contain the IE "Ciphering mode info":

   3> when RLC has been requested to transmit the UTRAN MOBILITY INFORMATION CONFIRM message:

    4> perform the actions below.

 1> if the variable PDCP_SN_INFO is non-empty:

  2> when RLC has confirmed the successful transmission of the UTRAN MOBILITY INFORMATION CONFIRM message:

   3> for each radio bearer in the variable PDCP_SN_INFO:

    4> if the IE "RB started" in the variable ESTABLISHED_RABS is set to "started":

     5> configure the RLC entity for that radio bearer to "continue".

   3> clear the variable PDCP_SN_INFO; and

   3> perform the actions below.

The UE shall:

 1> if the UTRAN MOBILITY INFORMATION message contained the IE "Ciphering mode info":

  2> resume data transmission on any suspended radio bearer and signalling radio bearer mapped on RLC-AM or RLC-UM;

  2> set the IE "Reconfiguration" in the variable CIPHERING_STATUS to FALSE; and

  2> clear the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO.

 1> if the UTRAN MOBILITY INFORMATION message contained the IE "Integrity protection mode info":

  2> allow the transmission of RRC messages on all signalling radio bearers with any RRC SN;

  2> set the IE "Reconfiguration" in the variable INTEGRITY_PROTECTION_INFO to FALSE; and

  2> clear the variable INTEGRITY_PROTECTION_ACTIVATION_INFO.

 3> if the UTRAN MOBILITY INFORMATION message contained the IE "PLMN Identity":

  4> replace the PLMN identity in CN information info with this PLMN indentity, even if CN information info do not contain any PLMN identity.

 1> clear the variable SECURITY_MODIFICATION.

The procedure ends.

  NOTE: In a cell broadcasting multiple PLMN identities, the IE PLMN identity in UTRAN MOBILITY INFORMATION should contain the PLMN identity signalled in RANAP RELOCATION REQUEST at handovers.

<mark>------------ Next Modified Section -------------</mark>

8.6.1 CN information elements

8.6.1.1 Void

8.6.1.2 CN information info

If the IE "CN information info" is present in a message, the UE shall:

1> if present, forward the content of the IE "PLMN identity" to upper layers;

1> if present, forward the content of the IE "CN common GSM-MAP NAS system information" to upper layers;

1> if the IE "CN domain related information" is present:

2> forward each occurrence of the IE "CN domain specific GSM-MAP NAS system info" together with the IE "CN domain identity" to upper layers.

2> if an IE "CN domain specific GSM-MAP NAS system info" is not present for a particular CN domain:

3> indicate to upper layers that no CN system information is available for that CN domain.

If the "PLMN identity" is present, the UE shall consider this PLMN to be the selected PLMN (see [4]).

NOTE: If the "PLMN identity" is to be present in an IE "CN information info" sent in a UTRAN MOBILITY INFORMATION to a UE in a cell broadcasting IE "Multiple PLMN List", it should contain the PLMN identity in the IE "PLMN Identity" of the MIB.

8.6.1.3 Signalling connection release indication

If the IE "Signalling Connection release indication" is present in a message, the UE shall:

1> if all radio access bearers for the CN domain identified with the value of the IE "Signalling Connection release indication" would have been released in the variable ESTABLISHED_RABS after processing of the received message:

2> indicate release of the signalling connection identified with the value of the IE "Signalling Connection release indication" to the upper layers;

2> remove the signalling connection identified with the value of the IE "Signalling Connection release indication" from the variable ESTABLISHED_SIGNALLING_CONNECTIONS.

1> if radio access bearers for the CN domain identified with the value of the IE "Signalling Connection release indication" would remain in the variable ESTABLISHED_RABS after processing of the received message:

2> set the variable INVALID_CONFIGURATION to TRUE.

----------- Next Modified Section ------------

10.2.16c INITIAL DIRECT TRANSFER

This message is used to initiate a signalling connection based on indication from the upper layers, and to transfer a NAS message.

RLC-SAP: AM

Logical channel: DCCH

Direction: UE -> UTRAN

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
Message Type	MP		Message Type		
UE information elements					
Integrity check info	CH		Integrity check info 10.3.3.16		
PLMN identity	OP		PLMN identity 10.3.1.11	This IE indicates the PLMN to which the UE requests the signalling connection to be established.	REL-6
CN information elements					
CN domain identity	MP		CN domain identity 10.3.1.1		
Intra Domain NAS Node Selector	MP		Intra Domain NAS Node Selector 10.3.1.6		
NAS message	MP		NAS message 10.3.1.8		
START	OP		START 10.3.3.38	START value to be used in the CN domain as indicated in the IE "CN domain identity". This IE shall always be present in this version of the protocol.	
Establishment cause	OP		Establishment cause 10.3.3.11		Rel-5
Measurement information elements					
Measured results on RACH	OP		Measured results on RACH 10.3.7.45		

----------- Next Modified Section ------------

10.2.22 PHYSICAL CHANNEL RECONFIGURATION

This message is used by UTRAN to assign, replace or release a set of physical channels used by a UE.

RLC-SAP: AM or UM

Logical channel: DCCH

Direction: UTRAN → UE

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
Message Type	MP		Message Type		
UE Information Elements					
RRC transaction identifier	MP		RRC transaction identifier 10.3.3.36		
Integrity check info	CH		Integrity check info 10.3.3.16		
Integrity protection mode info	OP		Integrity protection mode info 10.3.3.19	The UTRAN should not include this IE unless it is performing an SRNS relocation	
Ciphering mode info	OP		Ciphering mode info 10.3.3.5	The UTRAN should not include this IE unless it is performing an SRNS relocation and a change in ciphering algorithm	
Activation time	MD		Activation time 10.3.3.1	Default value is "now"	
New U-RNTI	OP		U-RNTI 10.3.3.47		
New C-RNTI	OP		C-RNTI 10.3.3.8		
New DSCH-RNTI	OP		DSCH-RNTI 10.3.3.9a		
New H-RNTI	OP		H-RNTI 10.3.3.14a		REL-5
RRC State Indicator	MP		RRC State Indicator 10.3.3.35a		
UTRAN DRX cycle length coefficient	OP		UTRAN DRX cycle length coefficient 10.3.3.49		
CN Information Elements					
CN Information info	OP		CN Information info 10.3.1.3		
PLMN Identity	OP		PLMN Identity 10.3.1.11	If present, this IE replaces the PLMN in CN Information info.	REL-6
UTRAN mobility information elements					
URA identity	OP		URA identity 10.3.2.6		
RB information elements					
Downlink counter synchronisation info	OP				

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
>RB with PDCP information list	OP	1 to \<maxRBall RABs>			
>>RB with PDCP information	MP		RB with PDCP information 10.3.4.22	This IE is needed for each RB having PDCP in the case of lossless SRNS relocation	
	OP				REL-5
>>PDCP context relocation info	OP		PDCP context relocation info 10.3.4.1a	This IE is needed for each RB having PDCP and performing PDCP context relocation	REL-5
PhyCH information elements					
Frequency info	OP		Frequency info 10.3.6.36		
Uplink radio resources					
Maximum allowed UL TX power	MD		Maximum allowed UL TX power 10.3.6.39	Default value is the existing value of the maximum allowed UL TX power	
CHOICE *channel requirement*	OP				
>Uplink DPCH info			Uplink DPCH info 10.3.6.88		
>CPCH SET Info			CPCH SET Info 10.3.6.13		
>CPCH set ID			CPCH set ID 10.3.5.3		
Downlink radio resources					
CHOICE *mode*	MP				
>FDD					
>>Downlink PDSCH information	OP		Downlink PDSCH information 10.3.6.30		
>TDD				(no data)	
Downlink HS-PDSCH Information	OP		Downlink HS_PDSCH Information 10.3.6.23a		REL-5
Downlink information common for all radio links	OP		Downlink information common for all radio links 10.3.6.24		
Downlink information per radio link list	OP	1 to \<maxRL>		Send downlink information for each radio link	
>Downlink information for each radio link	MP		Downlink information for each radio link 10.3.6.27		

10.2.27 RADIO BEARER RECONFIGURATION

This message is sent from UTRAN to reconfigure parameters related to a change of QoS. This procedure can also change the multiplexing of MAC, reconfigure transport channels and physical channels. This message is also used to perform a handover from GERAN *Iu mode* to UTRAN.

RLC-SAP: AM or UM or sent through GERAN *Iu mode*

Logical channel: DCCH or sent through GERAN *Iu mode*

Direction: UTRAN → UE

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
Message Type	MP		Message Type		
UE Information elements					
RRC transaction identifier	MP		RRC transaction identifier 10.3.3.36		
Integrity check info	CH		Integrity check info 10.3.3.16		
Integrity protection mode info	OP		Integrity protection mode info 10.3.3.19	The UTRAN should not include this IE unless it is performing an SRNS relocation or a handover from GERAN *Iu mode*	
Ciphering mode info	OP		Ciphering mode info 10.3.3.5	The UTRAN should not include this IE unless it is performing either an SRNS relocation or a handover from GERAN *Iu mode* and a change in ciphering algorithm	
Activation time	MD		Activation time 10.3.3.1	Default value is "now"	
New U-RNTI	OP		U-RNTI 10.3.3.47		
New C-RNTI	OP		C-RNTI 10.3.3.8		
New DSCH-RNTI	OP		DSCH-RNTI 10.3.3.9a		
New H-RNTI	OP		H-RNTI 10.3.3.14a		REL-5
RRC State Indicator	MP		RRC State Indicator 10.3.3.35a		
UTRAN DRX cycle length coefficient	OP		UTRAN DRX cycle length coefficient 10.3.3.49		
CN information elements					
CN Information info	OP		CN Information info 10.3.1.3		

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
PLMN Identity	OP		PLMN Identity 10.3.1.11	If present, this IE replaces the PLMN in CN Information info.	REL-6
UTRAN mobility information elements					
URA identity	OP		URA identity 10.3.2.6		
CHOICE specification mode	MP				REL-5
>Complete specification					
RB information elements					
>>RAB information to reconfigure list	OP	1 to < maxRABsetup >			
>>>RAB information to reconfigure	MP		RAB information to reconfigure 10.3.4.11		
>>RB information to reconfigure list	MP	1to <maxRB>		Although this IE is not always required, need is MP to align with ASN.1	
	OP				REL-4
>>>RB information to reconfigure	MP		RB information to reconfigure 10.3.4.18		
>>RB information to be affected list	OP	1 to <maxRB>			
>>>RB information to be affected	MP		RB information to be affected 10.3.4.17		
>>RB with PDCP context relocation info list	OP	1 to <maxRBall RABs>		This IE is needed for each RB having PDCP and performing PDCP context relocation	REL-5
>>>PDCP context relocation info	MP		PDCP context relocation info 10.3.4.1a		REL-5
TrCH Information Elements					
Uplink transport channels					
>>UL Transport channel information common for all transport channels	OP		UL Transport channel information common for all transport channels 10.3.5.24		
>>Deleted TrCH information list	OP	1 to <maxTrCH >			
>>>Deleted UL TrCH information	MP		Deleted UL TrCH information 10.3.5.5		
>>Added or Reconfigured TrCH information list	OP	1 to <maxTrCH			

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
		>			
>>>Added or Reconfigured UL TrCH information	MP		Added or Reconfigured UL TrCH information 10.3.5.2		
>>CHOICE *mode*	OP				
>>>FDD					
>>>>CPCH set ID	OP		CPCH set ID 10.3.5.3		
>>>>Added or Reconfigured TrCH information for DRAC list	OP	1 to <maxTrCH>			
>>>>>DRAC static information	MP		DRAC static information 10.3.5.7		
>>>TDD				(no data)	
Downlink transport channels					
>>DL Transport channel information common for all transport channels	OP		DL Transport channel information common for all transport channels 10.3.5.6		
>>Deleted TrCH information list	OP	1 to <maxTrCH>			
>>>Deleted DL TrCH information	MP		Deleted DL TrCH information 10.3.5.4		
>>Added or Reconfigured TrCH information list	OP	1 to <maxTrCH>			
>>>Added or Reconfigured DL TrCH information	MP		Added or Reconfigured DL TrCH information 10.3.5.1		
>Preconfiguration					REL-5
>>CHOICE *Preconfiguration mode*	MP				
>>>Predefined configuration identity	MP		Predefined configuration identity 10.3.4.5		
>>>Default configuration					
>>>>Default configuration mode	MP		Enumerated (FDD, TDD)	Indicates whether the FDD or TDD version of the default configuration shall be used	
>>>>Default configuration identity	MP		Default configuration identity 10.3.4.0		
PhyCH information elements					
Frequency info	OP		Frequency info 10.3.6.36		
Uplink radio resources					
Maximum allowed UL TX power	MD		Maximum allowed UL	Default value is the existing	

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
			TX power 10.3.6.39	maximum UL TX power	
CHOICE *channel requirement*	OP				
>Uplink DPCH info			Uplink DPCH info 10.3.6.88		
>CPCH SET Info			CPCH SET Info 10.3.6.13		
Downlink radio resources					
CHOICE *mode*	MP				
>FDD					
>>Downlink PDSCH information	OP		Downlink PDSCH information 10.3.6.30		
>TDD				(no data)	
Downlink HS-PDSCH Information	OP		Downlink HS-PDSCH Information 10.3.6.23a		REL-5
Downlink information common for all radio links	OP		Downlink information common for all radio links 10.3.6.24		
Downlink information per radio link list	MP	1 to \<maxRL\>		Although this IE is not always required, need is MP to align with ASN.1	
	OP				REL-4
>Downlink information for each radio link	MP		Downlink information for each radio link 10.3.6.27		

----------- Next Modified Section ------------

10.2.30 RADIO BEARER RELEASE

This message is used by UTRAN to release a radio bearer. It can also include modifications to the configurations of transport channels and/or physical channels. It can simultaneously indicate release of a signalling connection when UE is connected to more than one CN domain.

RLC-SAP: AM or UM

Logical channel: DCCH

Direction: UTRAN → UE

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
Message Type	MP		Message Type		
UE Information Elements					
RRC transaction identifier	MP		RRC transaction identifier 10.3.3.36		
Integrity check info	CH		Integrity check info		

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
			10.3.3.16		
Integrity protection mode info	OP		Integrity protection mode info 10.3.3.19	The UTRAN should not include this IE unless it is performing an SRNS relocation.	
Ciphering mode info	OP		Ciphering mode info 10.3.3.5	The UTRAN should not include this IE unless it is performing an SRNS relocation and a change in ciphering algorithm.	
Activation time	MD		Activation time 10.3.3.1	Default value is "now"	
New U-RNTI	OP		U-RNTI 10.3.3.47		
New C-RNTI	OP		C-RNTI 10.3.3.8		
New DSCH-RNTI	OP		DSCH-RNTI 10.3.3.9a		
New H-RNTI	OP		H-RNTI 10.3.3.14a		REL-5
RRC State Indicator	MP		RRC State Indicator 10.3.3.35a		
UTRAN DRX cycle length coefficient	OP		UTRAN DRX cycle length coefficient 10.3.3.49		
CN Information Elements					
CN Information info	OP		CN Information info 10.3.1.3		
PLMN Identity	OP		PLMN Identity 10.3.1.11	If present, this IE replaces the PLMN in CN Information info.	REL-6
Signalling Connection release indication	OP		CN domain identity 10.3.1.1		
UTRAN mobility information elements					
URA identity	OP		URA identity 10.3.2.6		
RB Information Elements					
RAB information to reconfigure list	OP	1 to < maxRABsetup >			
>RAB information to reconfigure	MP		RAB information to reconfigure 10.3.4.11		
RB information to release list	MP	1 to <maxRB>			
>RB information to release	MP		RB information to release 10.3.4.19		
RB information to be affected list	OP	1 to <maxRB>			
>RB information to be affected	MP		RB information to be affected 10.3.4.17		
Downlink counter synchronisation info	OP				

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
>RB with PDCP information list	OP	1 to <maxRBall RABs>			
>>RB with PDCP information	MP		RB with PDCP information 10.3.4.22	This IE is needed for each RB having PDCP in the case of lossless SRNS relocation	
	OP				REL-5
>RB with PDCP context relocation info list	OP	1 to <maxRBall RABs>			REL-5
>>PDCP context relocation info	MP		PDCP context relocation info 10.3.4.1a	This IE is needed for each RB having PDCP and performing PDCP context relocation	REL-5
TrCH Information Elements					
Uplink transport channels					
UL Transport channel information common for all transport channels	OP		UL Transport channel information common for all transport channels 10.3.5.24		
Deleted TrCH information list	OP	1 to <maxTrCH >			
>Deleted UL TrCH information	MP		Deleted UL TrCH information 10.3.5.5		
Added or Reconfigured TrCH information list	OP	1 to <maxTrCH >			
>Added or Reconfigured UL TrCH information	MP		Added or Reconfigure d UL TrCH information 10.3.5.2		
CHOICE *mode*	OP				
>FDD					
>>CPCH set ID	OP		CPCH set ID 10.3.5.3		
>>Added or Reconfigured TrCH information for DRAC list	OP	1 to <maxTrCH >			
>>>DRAC static information	MP		DRAC static information 10.3.5.7		
>TDD				(no data)	
Downlink transport channels					
DL Transport channel information common for all transport channels	OP		DL Transport channel information common for all transport channels 10.3.5.6		
Deleted TrCH information list	OP	1 to <maxTrCH >			
>Deleted DL TrCH information	MP		Deleted DL TrCH information		

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
			10.3.5.4		
Added or Reconfigured TrCH information list	OP	1 to <maxTrCH>			
>Added or Reconfigured DL TrCH information	MP		Added or Reconfigured DL TrCH information 10.3.5.1		
PhyCH information elements					
Frequency info	OP		Frequency info 10.3.6.36		
Uplink radio resources					
Maximum allowed UL TX power	MD		Maximum allowed UL TX power 10.3.6.39	Default value is the existing maximum UL TX power	
CHOICE *channel requirement*	OP				
>Uplink DPCH info			Uplink DPCH info 10.3.6.88		
>CPCH SET Info			CPCH SET Info 10.3.6.13		
Downlink radio resources					
CHOICE *mode*	MP				
>FDD					
>>Downlink PDSCH information	OP		Downlink PDSCH information 10.3.6.30		
>TDD				(no data)	
Downlink HS-PDSCH Information	OP		Downlink HS-PDSCH Information 10.3.6.23a		REL-5
Downlink information common for all radio links	OP		Downlink information common for all radio links 10.3.6.24		
Downlink information per radio link list	OP	1 to <maxRL>		Send downlink information for each radio link to be set-up	
>Downlink information for each radio link	MP		Downlink information for each radio link 10.3.6.27		

----------- Next Modified Section ------------

10.2.33 RADIO BEARER SETUP

This message is sent by UTRAN to the UE to establish new radio bearer(s). It can also include modifications to the configurations of transport channels and/or physical channels.

RLC-SAP: AM or UM

Logical channel: DCCH

Direction: UTRAN → UE

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
Message Type	MP		Message Type		
UE Information Elements					
RRC transaction identifier	MP		RRC transaction identifier 10.3.3.36		
Integrity check info	CH		Integrity check info 10.3.3.16		
Integrity protection mode info	OP		Integrity protection mode info 10.3.3.19	The UTRAN should not include this IE unless it is performing an SRNS relocation	
Ciphering mode info	OP		Ciphering mode info 10.3.3.5	The UTRAN should not include this IE unless it is performing an SRNS relocation and a change in ciphering algorithm	
Activation time	MD		Activation time 10.3.3.1	Default value is "now"	
New U-RNTI	OP		U-RNTI 10.3.3.47		
New C-RNTI	OP		C-RNTI 10.3.3.8		
New DSCH-RNTI	OP		DSCH-RNTI 10.3.3.9a		
New H-RNTI	OP		H-RNTI 10.3.3.14a		REL-5
RRC State Indicator	MP		RRC State Indicator 10.3.3.35a		
UTRAN DRX cycle length coefficient	OP		UTRAN DRX cycle length coefficient 10.3.3.49		
CN Information Elements					
CN Information info	OP		CN Information info 10.3.1.3		
PLMN Identity	OP		PLMN Identity 10.3.1.11	If present, this IE replaces the PLMN in CN Information info.	REL-6
UTRAN mobility information elements					
URA identity	OP		URA identity 10.3.2.6		
RB Information Elements					
Signalling RB information to setup list	OP	1 to <maxSRBsetup>		For each signalling radio bearer established	
>Signalling RB information to setup	MP		Signalling RB information to setup 10.3.4.24		
RAB information to setup list	OP	1 to <maxRABsetup>		For each RAB established	
>RAB information for setup	MP		RAB		

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
			information for setup 10.3.4.10		
RB information to be affected list	OP	1 to \<maxRB>			
>RB information to be affected	MP		RB information to be affected 10.3.4.17		
Downlink counter synchronisation info	OP				
>RB with PDCP information list	OP	1 to \<maxRBall RABs>			
>>RB with PDCP information	MP		RB with PDCP information 10.3.4.22	This IE is needed for each RB having PDCP in the case of lossless SRNS relocation	
	OP				REL-5
>>PDCP context relocation info	OP		PDCP context relocation info 10.3.4.1a	This IE is needed for each RB having PDCP and performing PDCP context relocation	REL-5
TrCH Information Elements					
Uplink transport channels					
UL Transport channel information common for all transport channels	OP		UL Transport channel information common for all transport channels 10.3.5.24		
Deleted TrCH information list	OP	1 to \<maxTrCH >			
>Deleted UL TrCH information	MP		Deleted UL TrCH information 10.3.5.5		
Added or Reconfigured TrCH information list	OP	1 to \<maxTrCH >			
>Added or Reconfigured UL TrCH information	MP		Added or Reconfigured UL TrCH information 10.3.5.2		
CHOICE *mode*	OP				
>FDD					
>>CPCH set ID	OP		CPCH set ID 10.3.5.3		
>>Added or Reconfigured TrCH information for DRAC list	OP	1 to \<maxTrCH >			
>>>DRAC static information	MP		DRAC static information 10.3.5.7		
>TDD				(no data)	
Downlink transport channels					
DL Transport channel information common for all	OP		DL Transport channel		

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
transport channels			information common for all transport channels10.3.5.6		
Deleted TrCH information list	OP	1 to <maxTrCH >			
>Deleted DL TrCH information	MP		Deleted DL TrCH information 10.3.5.4		
Added or Reconfigured TrCH information list	OP	1 to <maxTrCH >			
>Added or Reconfigured DL TrCH information	MP		Added or Reconfigured DL TrCH information 10.3.5.1		
PhyCH information elements					
Frequency info	OP		Frequency info 10.3.6.36		
Uplink radio resources					
Maximum allowed UL TX power	MD		Maximum allowed UL TX power 10.3.6.39	Default value is the existing maximum UL TX power	
CHOICE *channel requirement*	OP				
>Uplink DPCH info			Uplink DPCH info 10.3.6.88		
>CPCH SET Info			CPCH SET Info 10.3.6.13		
Downlink radio resources					
CHOICE *mode*	MP				
>FDD					
>>Downlink PDSCH information	OP		Downlink PDSCH information 10.3.6.30		
>TDD				(no data)	
Downlink HS-PDSCH Information	OP		Downlink HS-PDSCH Information 10.3.6.23a		REL-5
Downlink information common for all radio links	OP		Downlink information common for all radio links 10.3.6.24		
Downlink information per radio link list	OP	1 to <maxRL>		Send downlink information for each radio link	
>Downlink information for each radio link	MP		Downlink information for each radio link 10.3.6.27		

----------- Next Modified Section ------------

10.2.50 TRANSPORT CHANNEL RECONFIGURATION

This message is used by UTRAN to configure the transport channel of a UE. This also includes a possible reconfiguration of physical channels. The message can also be used to assign a TFC subset and reconfigure physical channel.

RLC-SAP: AM or UM

Logical channel: DCCH

Direction: UTRAN → UE

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
Message Type	MP		Message Type		
UE Information Elements					
RRC transaction identifier	MP		RRC transaction identifier 10.3.3.36		
Integrity check info	CH		Integrity check info 10.3.3.16		
Integrity protection mode info	OP		Integrity protection mode info 10.3.3.19	The UTRAN should not include this IE unless it is performing an SRNS relocation	
Ciphering mode info	OP		Ciphering mode info 10.3.3.5	The UTRAN should not include this IE unless it is performing an SRNS relocation and a change in ciphering algorithm	
Activation time	MD		Activation time 10.3.3.1	Default value is "now"	
New U-RNTI	OP		U-RNTI 10.3.3.47		
New C-RNTI	OP		C-RNTI 10.3.3.8		
New DSCH-RNTI	OP		DSCH-RNTI 10.3.3.9a		
New H-RNTI	OP		H-RNTI 10.3.3.14a		REL-5
RRC State Indicator	MP		RRC State Indicator 10.3.3.35a		
UTRAN DRX cycle length coefficient	OP		UTRAN DRX cycle length coefficient 10.3.3.49		
CN Information Elements					
CN Information info	OP		CN Information info 10.3.1.3		
PLMN Identity	OP		PLMN Identity 10.3.1.11	If present, this IE replaces the PLMN in CN Information info.	REL-6
UTRAN mobility information elements					
URA identity	OP		URA identity 10.3.2.6		
RB information elements					

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
Downlink counter synchronisation info	OP				
>RB with PDCP information list	OP	1 to \<maxRBall RABs>			
>>RB with PDCP information	MP		RB with PDCP information 10.3.4.22	This IE is needed for each RB having PDCP in the case of lossless SRNS relocation	
	OP				REL-5
>>PDCP context relocation info	OP		PDCP context relocation info 10.3.4.1a	This IE is needed for each RB having PDCP and performing PDCP context relocation	REL-5
TrCH Information Elements					
Uplink transport channels					
UL Transport channel information common for all transport channels	OP		UL Transport channel information common for all transport channels 10.3.5.24		
Added or Reconfigured TrCH information list	OP	1 to \<maxTrCH>			
>Added or Reconfigured UL TrCH information	MP		Added or Reconfigured UL TrCH information 10.3.5.2		
CHOICE *mode*	OP				
>FDD					
>>CPCH set ID	OP		CPCH set ID 10.3.5.3		
>>Added or Reconfigured TrCH information for DRAC list	OP	1 to \<maxTrCH>			
>>>DRAC static information	MP		DRAC static information 10.3.5.7		
>TDD				(no data)	
Downlink transport channels					
DL Transport channel information common for all transport channels	OP		DL Transport channel information common for all transport channels 10.3.5.6		
Added or Reconfigured TrCH information list	OP	1 to \<maxTrCH>			
>Added or Reconfigured DL TrCH information	MP		Added or Reconfigured DL TrCH information 10.3.5.1		
PhyCH information elements					
Frequency info	OP		Frequency info 10.3.6.36		

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
Uplink radio resources					
Maximum allowed UL TX power	MD		Maximum allowed UL TX power 10.3.6.39	Default value is the existing maximum UL TX power	
CHOICE *channel requirement*	OP				
>Uplink DPCH info			Uplink DPCH info 10.3.6.88		
>CPCH SET Info			CPCH SET Info 10.3.6.13		
Downlink radio resources					
CHOICE *mode*	MP				
>FDD					
>>Downlink PDSCH information	OP		Downlink PDSCH information 10.3.6.30		
>TDD				(no data)	
Downlink HS-PDSCH Information	OP		Downlink HS-PDSCH Information 10.3.6.23a		REL-5
Downlink information common for all radio links	OP		Downlink information common for all radio links 10.3.6.24		
Downlink information per radio link list	OP	1 to <maxRL>		Send downlink information for each radio link	
>Downlink information for each radio link	MP		Downlink information for each radio link 10.3.6.27		

<mark>----------- Next Modified Section ------------</mark>

10.2.48.8   System Information Blocks

The IE "SIB data" within the IEs, "First Segment", "Subsequent or last Segment" and "Complete SIB" contains either complete system information block or a segment of a system information block. The actual system information blocks are defined in the following clauses.

10.2.48.8.1 Master Information Block

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
Other information elements					
MIB Value tag	MP		MIB Value tag 10.3.8.9		
CN information elements					
Supported PLMN types	MP		PLMN Type 10.3.1.12		
PLMN Identity	CV-*GSM*		PLMN Identity 10.3.1.11		
Multiple PLMN List	OP		Multiple PLMN List 10.3.1.7a	If present, this IE specifies the PLMNs of the cell. If absent, the IE "PLMN Identity" specifies the PLMN of the cell.	REL-6
ANSI-41 information elements					
ANSI-41 Core Network Information	CV-*ANSI-41*		ANSI-41 Core Network Information 10.3.9.1		
References to other system information blocks and scheduling blocks	MP		References to other system information blocks and scheduling blocks 10.3.8.14		

Condition	Explanation
GSM	The IE is mandatory present if the IE "Supported PLMN Types" is set to 'GSM-MAP' or 'GSM-MAP AND ANSI-41', and not needed otherwise
ANSI-41	The IE is mandatory present if the IE "Supported PLMN Types" is set to 'ANSI-41' or 'GSM-MAP AND ANSI-41', and not needed otherwise

10.2.48.8.2 Scheduling Block 1

Information Element/Group name	Need	Multi	Type and reference	Semantics description
References to other system information blocks	MP		References to other system information blocks 10.3.8.13	

----------- Next Modified Section ------------

10.2.62 UTRAN MOBILITY INFORMATION

This message is used by UTRAN to allocate a new RNTI and to convey other UTRAN mobility related information to a UE.

RLC-SAP: AM or UM

Logical channel: DCCH

Direction: UTRAN→UE

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
Message Type	MP		Message Type		
UE Information Elements					
Integrity check info	CH		Integrity check info 10.3.3.16		
RRC transaction identifier	MP		RRC transaction identifier 10.3.3.36		
Integrity protection mode info	OP		Integrity protection mode info 10.3.3.19	The UTRAN should not include this IE unless it is performing an SRNS relocation	
Ciphering mode info	OP		Ciphering mode info 10.3.3.5	The UTRAN should not include this IE unless it is performing an SRNS relocation and a change in ciphering algorithm	
New U-RNTI	OP		U-RNTI 10.3.3.47		
New C-RNTI	OP		C-RNTI 10.3.3.8		
UE Timers and constants in connected mode	OP		UE Timers and constants in connected mode 10.3.3.43		
CN Information Elements					
CN Information info	OP		CN Information info full 10.3.1.3a		
PLMN Identity	OP		PLMN Identity 10.3.1.11	If present, this IE replaces the PLMN in CN Information info.	REL-6
UTRAN Information Elements					
URA identity	OP		URA identity 10.3.2.6		
RB Information elements					
Downlink counter synchronisation info	OP				
>RB with PDCP information list	OP	1 to <maxRBall RABs>			
>>RB with PDCP information	MP		RB with PDCP information 10.3.4.22	This IE is needed for each RB having PDCP in the case of lossless SRNS relocation	
	OP				REL-5
>>PDCP context relocation info	OP		PDCP context relocation info 10.3.4.1a	This IE is needed for each RB having PDCP and performing PDCP context relocation	REL-5

10.3.1.7 Location Area Identification

Identifies uniquely a location area for a GSM-MAP type of PLMN. Setting specified in [5].

Information Element/Group name	Need	Multi	Type and reference	Semantics description
PLMN identity	MP		PLMN identity 10.3.1.11	
LAC	MP		Bit string(16)	The first/leftmost bit of the bit string contains the most significant bit of the LAC..

10.3.1.7a Multiple PLMN List

This information element identifies the multiple Public Land Mobile Networks (for a GSM-MAP type of PLMN) of a cell in a shared network.

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
MIB PLMN Identity	MP		Boolean	The PLMN identity IE 10.3.1.11, broadcasted in the MIB, shall be included in the multiple PLMN list if and only if this IE is TRUE.	REL-6
Multiple PLMNs	MP	1 to 5	PLMN identity with Optional MCC 10.3.1.11a		REL-6

10.3.1.8 NAS message

A non-access stratum message to be transferred transparently through UTRAN.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
NAS message	MP		Octet string (1..4095)	The first octet contains octet 1 [17] of the NAS message, the second octet contains octet 2 of the NAS message and so on.

10.3.1.9 NAS system information (GSM-MAP)

This information element contains system information that belongs to the non-access stratum for a GSM-MAP type of PLMN. This information is transparent to RRC. It may contain either information specific to one CN domain (CS or PS) or information common for both CN domains.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
GSM-MAP NAS system information	MP		Octet string(1..8)	The first octet contains octet 1 [5] of the NAS system information element, the second octet contains octet 2 of the NAS system information element and so on.

10.3.1.10 Paging record type identifier

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Paging record type identifier	MP		Enumerated (IMSI (GSM-MAP), TMSI (GSM-MAP)/ P-TMSI, IMSI (DS-41), TMSI (DS-41))	

10.3.1.11 PLMN identity

This information element identifies a Public Land Mobile Network for a GSM-MAP type of PLMN. Setting of digits is defined in [11].

Information Element/Group name	Need	Multi	Type and reference	Semantics description
MCC	MP	3		The first element contains the first MCC digit, the second element the second MCC digit and so on.
>MCC digit	MP		INTEGER(0. .9)	
MNC	MP	2 to 3		The first element contains the first MNC digit, the second element the second MNC digit and so on.
>MNC digit	MP		INTEGER(0. .9)	

10.3.1.11a PLMN identity with Optional MCC

This information element is a PLMN identity 10.3.1.11 where MCC is optional. It is used in a shared network and inserted in the Multiple PLMN List 10.3.1.7a.

Information Element/ Group name	Need	Multi	Type and reference	Semantics description	Version
MCC	MD	3		The first element contains the first MCC digit, the second element the second MCC digit and so on. If the MCC is not included, the UE shall set the MCC of this PLMN identity equal to the MCC of the closest preceding "PLMN identity with Optional MCC" IE in the Multiple PLMN List 10.3.1.7a that includes a MCC, or, if no such "PLMN identity with Optional MCC" IE exists, the UE shall set the MCC of this PLMN identity to the MCC of the PLMN identity 10.3.1.11 in the	REL-6

Information Element/ Group name	Need	Multi	Type and reference	Semantics description	Version
				Master Information Block 10.2.48.8.1.	
>MCC digit	MP		Integer (0..9)		REL-6
MNC	MP	2 to 3		The first element contains the first MNC digit, the second element the second MNC digit and so on.	REL-6
>MNC digit	MP		Integer (0..9)		REL-6

10.3.1.12   PLMN Type

Identifies the type of Public Land Mobile Network (PLMN). This IE shall be used to control the interpretation of network dependent messages and information elements in the RRC protocol.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
PLMN Type	MP		Enumerated (GSM-MAP, ANSI-41, GSM-MAP and ANSI-41)	One spare value is needed.

----------- Next Modified Section ------------

11.2 PDU definitions

```
                              :: Modified PDU IMPORTS list ::

IMPORTS

-- Core Network IEs :
    CN-DomainIdentity,
    CN-InformationInfo,
    CN-InformationInfoFull,
    NAS-Message,
    PagingRecordTypeID,
    PLMN-Identity,
-- UTRAN Mobility IEs :
    CellIdentity,
    CellIdentity-PerRL-List,
    URA-Identity,
```

```
                              :: Modified PDU ::

-- **************************************************
--
-- INITIAL DIRECT TRANSFER
--
-- **************************************************

InitialDirectTransfer ::= SEQUENCE {
    -- Core network IEs
        cn-DomainIdentity               CN-DomainIdentity,
        intraDomainNasNodeSelector      IntraDomainNasNodeSelector,
        nas-Message                     NAS-Message,
    -- Measurement IEs
        measuredResultsOnRACH           MeasuredResultsOnRACH           OPTIONAL,
        v3a0NonCriticalExtensions       SEQUENCE {
        initialDirectTransfer-v3a0ext   InitialDirectTransfer-v3a0ext,
        laterNonCriticalExtensions      SEQUENCE {
            -- Container for additional R99 extensions
            initialDirectTransfer-r3-add-ext        BIT STRING  OPTIONAL,
                v590NonCriticalExtensions       SEQUENCE {
                    initialDirectTransfer-v590ext   InitialDirectTransfer-v590ext,
                    v640NonCriticalExtensions       SEQUENCE {
                        initialDirectTransfer-v6xyext   InitialDirectTransfer-v6xyext,
                        nonCriticalExtensions           SEQUENCE {}     OPTIONAL
                    }       OPTIONAL
                }       OPTIONAL
            }       OPTIONAL
        }   OPTIONAL
}

InitialDirectTransfer-v3a0ext ::= SEQUENCE {
    -- start-value shall always be included in this version of the protocol
    start-Value                     START-Value                     OPTIONAL
}

InitialDirectTransfer-v590ext ::= SEQUENCE {
    establishmentCause      EstablishmentCause  OPTIONAL
}

InitialDirectTransfer-v6xyext ::=   SEQUENCE {
    plmn-Identity                       PLMN-Identity                   OPTIONAL
}
```

```
                              :: Modified PDU ::

-- **************************************************
--
-- PHYSICAL CHANNEL RECONFIGURATION
--
-- **************************************************

PhysicalChannelReconfiguration ::= CHOICE {
    r3                              SEQUENCE {
```

```
        physicalChannelReconfiguration-r3
                                        PhysicalChannelReconfiguration-r3-IEs,
        v3a0NonCriticalExtensions               SEQUENCE {
            physicalChannelReconfiguration-v3a0ext      PhysicalChannelReconfiguration-v3a0ext,
            laterNonCriticalExtensions      SEQUENCE {
                -- Container for additional R99 extensions
                physicalChannelReconfiguration-r3-add-ext           BIT STRING      OPTIONAL,
                v4b0NonCriticalExtenstions              SEQUENCE {
                    physicalChannelReconfiguration-v4b0ext
                                                PhysicalChannelReconfiguration-v4b0ext-IEs,
                    v590NonCriticalExtenstions              SEQUENCE {
                        physicalChannelReconfiguration-v590ext
                                                    PhysicalChannelReconfiguration-v590ext-IEs,
                        v640NonCriticalExtensions           SEQUENCE {
                            physicalChannelReconfiguration-v6xyext
                                                        PhysicalChannelReconfiguration-v6xyext-IEs,
                            nonCriticalExtensions               SEQUENCE {} OPTIONAL
                        }       OPTIONAL
                    }   OPTIONAL
                }   OPTIONAL
            }   OPTIONAL
        }   OPTIONAL
    },
    later-than-r3                   SEQUENCE {
        rrc-TransactionIdentifier       RRC-TransactionIdentifier,
        criticalExtensions              CHOICE {
        r4                              SEQUENCE {
            physicalChannelReconfiguration-r4
                                        PhysicalChannelReconfiguration-r4-IEs,
            v4d0NonCriticalExtensions               SEQUENCE {
                -- Container for adding non critical extensions after freezing REL-5
                physicalChannelReconfiguration-r4-add-ext       BIT STRING      OPTIONAL,
                v590NonCriticalExtenstions              SEQUENCE {
                    physicalChannelReconfiguration-v590ext
                                                PhysicalChannelReconfiguration-v590ext-IEs,
                    v640NonCriticalExtensions           SEQUENCE {
                        physicalChannelReconfiguration-v6xyext
                                                    PhysicalChannelReconfiguration-v6xyext-IEs,
                        nonCriticalExtensions               SEQUENCE {}     OPTIONAL
                    }       OPTIONAL
                }   OPTIONAL
            }   OPTIONAL
        },
        criticalExtensions              CHOICE {
        r5                              SEQUENCE {
            physicalChannelReconfiguration-r5
                                            PhysicalChannelReconfiguration-r5-IEs,
            -- Container for adding non critical extensions after freezing REL-6
            physicalChannelReconfiguration-r5-add-ext       BIT STRING      OPTIONAL,
            v640NonCriticalExtensions       SEQUENCE {
                physicalChannelReconfiguration-v6xyext
                                                    PhysicalChannelReconfiguration-v6xyext-IEs,
                nonCriticalExtensions               SEQUENCE {}     OPTIONAL
            }       OPTIONAL
        },
        criticalExtensions              SEQUENCE {}
        }
        }
    }
}

PhysicalChannelReconfiguration-r3-IEs ::= SEQUENCE {
    -- User equipment IEs
    rrc-TransactionIdentifier       RRC-TransactionIdentifier,
    integrityProtectionModeInfo     IntegrityProtectionModeInfo         OPTIONAL,
    cipheringModeInfo               CipheringModeInfo                   OPTIONAL,
    activationTime                  ActivationTime                      OPTIONAL,
    new-U-RNTI                      U-RNTI                              OPTIONAL,
    new-C-RNTI                      C-RNTI                              OPTIONAL,
    rrc-StateIndicator              RRC-StateIndicator,
    utran-DRX-CycleLengthCoeff      UTRAN-DRX-CycleLengthCoefficient    OPTIONAL,
    -- Core network IEs
    cn-InformationInfo              CN-InformationInfo                  OPTIONAL,
    -- UTRAN mobility IEs
    ura-Identity                    URA-Identity                        OPTIONAL,
    -- Radio bearer IEs
    dl-CounterSynchronisationInfo   DL-CounterSynchronisationInfo       OPTIONAL,
    -- Physical channel IEs
```

```
        frequencyInfo                     FrequencyInfo                        OPTIONAL,
        maxAllowedUL-TX-Power             MaxAllowedUL-TX-Power                OPTIONAL,
        -- TABULAR: UL-ChannelRequirementWithCPCH-SetID contains the choice
        -- between UL DPCH info, CPCH SET info and CPCH set ID.
        ul-ChannelRequirement             UL-ChannelRequirementWithCPCH-SetID    OPTIONAL,
        modeSpecificInfo                  CHOICE {
            fdd                               SEQUENCE {
                dl-PDSCH-Information               DL-PDSCH-Information      OPTIONAL
            },
            tdd                               NULL
        },
        dl-CommonInformation              DL-CommonInformation                 OPTIONAL,
        dl-InformationPerRL-List          DL-InformationPerRL-List             OPTIONAL
}

PhysicalChannelReconfiguration-v3a0ext ::= SEQUENCE {
    new-DSCH-RNTI                       DSCH-RNTI                             OPTIONAL
}

PhysicalChannelReconfiguration-v4b0ext-IEs ::= SEQUENCE {
    -- Physical channel IEs
        -- ssdt-UL extends SSDT-Information, which is included in
        -- DL-CommonInformation. FDD only.
        ssdt-UL-r4                        SSDT-UL                             OPTIONAL,
        -- The order of the RLs in IE cell-id-PerRL-List is the same as
        -- in IE DL-InformationPerRL-List included in this message
        cell-id-PerRL-List                CellIdentity-PerRL-List             OPTIONAL
}

PhysicalChannelReconfiguration-v590ext-IEs ::= SEQUENCE {
    -- Physical channel IEs
        dl-TPC-PowerOffsetPerRL-List    DL-TPC-PowerOffsetPerRL-List          OPTIONAL
}

PhysicalChannelReconfiguration-v6xyext-IEs ::= SEQUENCE {
    plmn-Identity                       PLMN-Identity                         OPTIONAL
}
```

:: Modified PDU ::

```
-- **************************************************
--
-- RADIO BEARER RECONFIGURATION
--
-- **************************************************

RadioBearerReconfiguration ::= CHOICE {
    r3                                SEQUENCE {
        radioBearerReconfiguration-r3   RadioBearerReconfiguration-r3-IEs,
        -- Prefix "v3ao" is used (in one instance) to keep alignment with R99
        v3aoNonCriticalExtensions         SEQUENCE {
            radioBearerReconfiguration-v3a0ext  RadioBearerReconfiguration-v3a0ext,
            laterNonCriticalExtensions        SEQUENCE {
                -- Container for additional R99 extensions
                radioBearerReconfiguration-r3-add-ext       BIT STRING     OPTIONAL,
                v4b0NonCriticalExtensions           SEQUENCE {
                    radioBearerReconfiguration-v4b0ext
                                                    RadioBearerReconfiguration-v4b0ext-IEs,
                    v590NonCriticalExtensions           SEQUENCE {
                        radioBearerReconfiguration-v590ext
                                                    RadioBearerReconfiguration-v590ext-IEs,
                        v640NonCriticalExtensions       SEQUENCE {
                            radioBearerReconfiguration-v6xyext
                                                    RadioBearerReconfiguration-v6xyext-IEs,
                            nonCriticalExtensions           SEQUENCE {} OPTIONAL
                        } OPTIONAL
                    } OPTIONAL
                } OPTIONAL
            } OPTIONAL
        } OPTIONAL
    },
    later-than-r3                     SEQUENCE {
        rrc-TransactionIdentifier       RRC-TransactionIdentifier,
        criticalExtensions                CHOICE {
            r4                                SEQUENCE {
                radioBearerReconfiguration-r4  RadioBearerReconfiguration-r4-IEs,
```

```
                   v4d0NonCriticalExtensions          SEQUENCE {
                       -- Container for adding non critical extensions after freezing REL-5
                       radioBearerReconfiguration-r4-add-ext      BIT STRING      OPTIONAL,
                       v590NonCriticalExtensions          SEQUENCE {
                           radioBearerReconfiguration-v590ext
                                                   RadioBearerReconfiguration-v590ext-IEs,
                           v640NonCriticalExtensions      SEQUENCE {
                               radioBearerReconfiguration-v6xyext
                                                   RadioBearerReconfiguration-v6xyext-IEs,
                           nonCriticalExtensions          SEQUENCE {}    OPTIONAL
                           }      OPTIONAL

                       }    OPTIONAL
                   }    OPTIONAL
               },
               criticalExtensions          CHOICE {
                   r5                              SEQUENCE {
                       radioBearerReconfiguration-r5      RadioBearerReconfiguration-r5-IEs,
                       -- Container for adding non critical extensions after freezing REL-6
                       radioBearerReconfiguration-r5-add-ext      BIT STRING      OPTIONAL,
                       v640NonCriticalExtensions      SEQUENCE {
                           radioBearerReconfiguration-v6xyext
                                                   RadioBearerReconfiguration-v6xyext-IEs,
                       nonCriticalExtensions          SEQUENCE {}    OPTIONAL
                       }      OPTIONAL

                   },
                   criticalExtensions              SEQUENCE {}
               }
           }
       }
}

RadioBearerReconfiguration-r3-IEs ::= SEQUENCE {
    -- User equipment IEs
       rrc-TransactionIdentifier       RRC-TransactionIdentifier,
       integrityProtectionModeInfo     IntegrityProtectionModeInfo       OPTIONAL,
       cipheringModeInfo               CipheringModeInfo                 OPTIONAL,
       activationTime                  ActivationTime                    OPTIONAL,
       new-U-RNTI                      U-RNTI                            OPTIONAL,
       new-C-RNTI                      C-RNTI                            OPTIONAL,
       rrc-StateIndicator              RRC-StateIndicator,
       utran-DRX-CycleLengthCoeff      UTRAN-DRX-CycleLengthCoefficient  OPTIONAL,
    -- Core network IEs
       cn-InformationInfo              CN-InformationInfo                OPTIONAL,
    -- UTRAN mobility IEs
       ura-Identity                    URA-Identity                      OPTIONAL,
    -- Radio bearer IEs
       rab-InformationReconfigList     RAB-InformationReconfigList       OPTIONAL,
       -- NOTE: IE rb-InformationReconfigList should be optional in later versions
       -- of this message
       rb-InformationReconfigList      RB-InformationReconfigList,
       rb-InformationAffectedList      RB-InformationAffectedList        OPTIONAL,
    -- Transport channel IEs
       ul-CommonTransChInfo            UL-CommonTransChInfo              OPTIONAL,
       ul-deletedTransChInfoList       UL-DeletedTransChInfoList         OPTIONAL,
       ul-AddReconfTransChInfoList     UL-AddReconfTransChInfoList       OPTIONAL,
       modeSpecificTransChInfo         CHOICE {
           fdd                             SEQUENCE {
               cpch-SetID                      CPCH-SetID                OPTIONAL,
               addReconfTransChDRAC-Info       DRAC-StaticInformationList OPTIONAL
           },
           tdd                             NULL
       }                                                                 OPTIONAL,
       dl-CommonTransChInfo            DL-CommonTransChInfo              OPTIONAL,
       dl-DeletedTransChInfoList       DL-DeletedTransChInfoList         OPTIONAL,
       dl-AddReconfTransChInfoList     DL-AddReconfTransChInfo2List      OPTIONAL,
    -- Physical channel IEs
       frequencyInfo                   FrequencyInfo                     OPTIONAL,
       maxAllowedUL-TX-Power           MaxAllowedUL-TX-Power             OPTIONAL,
       ul-ChannelRequirement           UL-ChannelRequirement             OPTIONAL,
       modeSpecificPhysChInfo          CHOICE {
           fdd                             SEQUENCE {
               dl-PDSCH-Information             DL-PDSCH-Information       OPTIONAL
           },
           tdd                             NULL
       },
       dl-CommonInformation            DL-CommonInformation              OPTIONAL,
```

```
        -- NOTE: IE dl-InformationPerRL-List should be optional in later versions
        -- of this message
        dl-InformationPerRL-List        DL-InformationPerRL-List
}

RadioBearerReconfiguration-v3a0ext ::= SEQUENCE {
    new-DSCH-RNTI                       DSCH-RNTI                               OPTIONAL
}

RadioBearerReconfiguration-v4b0ext-IEs ::= SEQUENCE {
    -- Physical channel IEs
        -- ssdt-UL extends SSDT-Information, which is included in
        -- DL-CommonInformation. FDD only.
        ssdt-UL-r4                      SSDT-UL                                 OPTIONAL,
        -- The order of the RLs in IE cell-id-PerRL-List is the same as
        -- in IE DL-InformationPerRL-List included in this message
        cell-id-PerRL-List              CellIdentity-PerRL-List                 OPTIONAL
}

RadioBearerReconfiguration-v590ext-IEs ::= SEQUENCE {
    -- Physical channel IEs
        dl-TPC-PowerOffsetPerRL-List    DL-TPC-PowerOffsetPerRL-List            OPTIONAL
}


RadioBearerReconfiguration-v6xyext-IEs ::= SEQUENCE {
    plmn-Identity                       PLMN-Identity                           OPTIONAL
}
```

```
                                    :: Modified PDU ::
```

```
-- **************************************************
--
-- RADIO BEARER RELEASE
--
-- **************************************************

RadioBearerRelease ::= CHOICE {
    r3                              SEQUENCE {
        radioBearerRelease-r3           RadioBearerRelease-r3-IEs,
        v3a0NonCriticalExtensions       SEQUENCE {
            radioBearerRelease-v3a0ext      RadioBearerRelease-v3a0ext,
        laterNonCriticalExtensions      SEQUENCE {
            -- Container for additional R99 extensions
            radioBearerRelease-r3-add-ext       BIT STRING      OPTIONAL,
                v4b0NonCriticalExtensions       SEQUENCE {
                    radioBearerRelease-v4b0ext      RadioBearerRelease-v4b0ext-IEs,
                    v590NonCriticalExtensions       SEQUENCE {
                        radioBearerRelease-v590ext      RadioBearerRelease-v590ext-IEs,
                        v640NonCriticalExtensions       SEQUENCE {
                            radioBearerRelease-v6xyext      radioBearerRelease-v6xyext-IEs,
                            nonCriticalExtensions           SEQUENCE {} OPTIONAL
                        }       OPTIONAL
                    }   OPTIONAL
                }   OPTIONAL
            }   OPTIONAL
        }   OPTIONAL
    },
    later-than-r3                   SEQUENCE {
        rrc-TransactionIdentifier       RRC-TransactionIdentifier,
        criticalExtensions              CHOICE {
            r4                              SEQUENCE {
                radioBearerRelease-r4           RadioBearerRelease-r4-IEs,
                v4d0NonCriticalExtensions           SEQUENCE {
                    -- Container for adding non critical extensions after freezing REL-5
                    radioBearerRelease-r4-add-ext       BIT STRING      OPTIONAL,
                    v590NonCriticalExtensions       SEQUENCE {
                        radioBearerRelease-v590ext      RadioBearerRelease-v590ext-IEs,
                        v640NonCriticalExtensions       SEQUENCE {
                            radioBearerRelease-v6xyext      radioBearerRelease-v6xyext-IEs,
                            nonCriticalExtensions           SEQUENCE {}     OPTIONAL
                        }       OPTIONAL
                    } OPTIONAL
                } OPTIONAL
            },
            criticalExtensions              CHOICE {
                r5                              SEQUENCE {
```

```
                    radioBearerRelease-r5          RadioBearerRelease-r5-IEs,
                    -- Container for adding non critical extensions after freezing REL-6
                    radioBearerRelease-r5-add-ext          BIT STRING          OPTIONAL,
                    v640NonCriticalExtensions          SEQUENCE {
                            radioBearerRelease-v6xyext          radioBearerRelease-v6xyext-IEs,
                            nonCriticalExtensions          SEQUENCE {}     OPTIONAL
                    }          OPTIONAL
            },
            criticalExtensions                SEQUENCE {}
        }
    }
}

RadioBearerRelease-r3-IEs ::= SEQUENCE {
    -- User equipment IEs
        rrc-TransactionIdentifier       RRC-TransactionIdentifier,
        integrityProtectionModeInfo     IntegrityProtectionModeInfo          OPTIONAL,
        cipheringModeInfo               CipheringModeInfo                    OPTIONAL,
        activationTime                  ActivationTime                       OPTIONAL,
        new-U-RNTI                      U-RNTI                               OPTIONAL,
        new-C-RNTI                      C-RNTI                               OPTIONAL,
        rrc-StateIndicator              RRC-StateIndicator,
        utran-DRX-CycleLengthCoeff      UTRAN-DRX-CycleLengthCoefficient     OPTIONAL,
    -- Core network IEs
        cn-InformationInfo              CN-InformationInfo                   OPTIONAL,
        signallingConnectionRelIndication   CN-DomainIdentity                OPTIONAL,
    -- UTRAN mobility IEs
        ura-Identity                    URA-Identity                         OPTIONAL,
    -- Radio bearer IEs
        rab-InformationReconfigList     RAB-InformationReconfigList          OPTIONAL,
        rb-InformationReleaseList       RB-InformationReleaseList,
        rb-InformationAffectedList      RB-InformationAffectedList           OPTIONAL,
        dl-CounterSynchronisationInfo   DL-CounterSynchronisationInfo        OPTIONAL,
    -- Transport channel IEs
        ul-CommonTransChInfo            UL-CommonTransChInfo                 OPTIONAL,
        ul-deletedTransChInfoList       UL-DeletedTransChInfoList            OPTIONAL,
        ul-AddReconfTransChInfoList     UL-AddReconfTransChInfoList          OPTIONAL,
        modeSpecificTransChInfo         CHOICE {
            fdd                                 SEQUENCE {
                cpch-SetID                          CPCH-SetID               OPTIONAL,
                addReconfTransChDRAC-Info           DRAC-StaticInformationList OPTIONAL
            },
            tdd                             NULL
        }                                                                    OPTIONAL,
        dl-CommonTransChInfo            DL-CommonTransChInfo                  OPTIONAL,
        dl-DeletedTransChInfoList       DL-DeletedTransChInfoList            OPTIONAL,
        dl-AddReconfTransChInfoList     DL-AddReconfTransChInfo2List         OPTIONAL,
    -- Physical channel IEs
        frequencyInfo                   FrequencyInfo                        OPTIONAL,
        maxAllowedUL-TX-Power           MaxAllowedUL-TX-Power                OPTIONAL,
        ul-ChannelRequirement           UL-ChannelRequirement                OPTIONAL,
        modeSpecificPhysChInfo          CHOICE {
            fdd                                 SEQUENCE {
                dl-PDSCH-Information                 DL-PDSCH-Information      OPTIONAL
            },
            tdd                             NULL
        },
        dl-CommonInformation            DL-CommonInformation                 OPTIONAL,
        dl-InformationPerRL-List        DL-InformationPerRL-List             OPTIONAL
}

RadioBearerRelease-v3a0ext ::= SEQUENCE {
    new-DSCH-RNTI                       DSCH-RNTI                                    OPTIONAL
}

RadioBearerRelease-v4b0ext-IEs ::= SEQUENCE {
    -- Physical channel IEs
        -- IE ssdt-UL extends SSDT-Information, which is included in
        -- DL-CommonInformation. FDD only.
        ssdt-UL-r4                          SSDT-UL                                 OPTIONAL,
        -- The order of the RLs in IE cell-id-PerRL-List is the same as
        --  in IE DL-InformationPerRL-List included in this message
        cell-id-PerRL-List                  CellIdentity-PerRL-List                 OPTIONAL
}

RadioBearerRelease-v590ext-IEs ::= SEQUENCE {
    -- Physical channel IEs
```

```
            dl-TPC-PowerOffsetPerRL-List    DL-TPC-PowerOffsetPerRL-List       OPTIONAL
}


RadioBearerRelease-v6xyext-IEs ::= SEQUENCE {
    plmn-Identity                     PLMN-Identity                      OPTIONAL
}
```

```
                                         :: Modified PDU ::
```

```
-- **************************************************
--
-- RADIO BEARER SETUP
--
-- **************************************************

RadioBearerSetup ::= CHOICE {
    r3                              SEQUENCE {
        radioBearerSetup-r3         RadioBearerSetup-r3-IEs,
        v3a0NonCriticalExtensions       SEQUENCE {
            radioBearerSetup-v3a0ext     RadioBearerSetup-v3a0ext,
            laterNonCriticalExtensions      SEQUENCE {
                -- Container for additional R99 extensions
                radioBearerSetup-r3-add-ext    BIT STRING      OPTIONAL,
                v4b0NonCriticalExtensions          SEQUENCE {
                    radioBearerSetup-v4b0ext       RadioBearerSetup-v4b0ext-IEs,
                    v590NonCriticalExtensions          SEQUENCE {
                        radioBearerSetup-v590ext       RadioBearerSetup-v590ext-IEs,
                        v640NonCriticalExtensions       SEQUENCE {
                            radioBearerSetup-v6xyext        RadioBearerSetup-v6xyext-IEs,
                            nonCriticalExtensions                SEQUENCE {} OPTIONAL
                        } OPTIONAL
                    } OPTIONAL
                } OPTIONAL
            } OPTIONAL
        } OPTIONAL
    },
    later-than-r3                   SEQUENCE {
        rrc-TransactionIdentifier       RRC-TransactionIdentifier,
        criticalExtensions              CHOICE {
            r4                              SEQUENCE {
                radioBearerSetup-r4         RadioBearerSetup-r4-IEs,
                v4d0NonCriticalExtensions          SEQUENCE {
                    -- Container for adding non critical extensions after freezing REL-5
                    radioBearerSetup-r4-add-ext    BIT STRING      OPTIONAL,
                    v590NonCriticalExtensions          SEQUENCE {
                        radioBearerSetup-v590ext       RadioBearerSetup-v590ext-IEs,
                        v640NonCriticalExtensions       SEQUENCE {
                            radioBearerSetup-v6xyext        RadioBearerSetup-v6xyext-IEs,
                            nonCriticalExtensions                SEQUENCE {}     OPTIONAL
                        } OPTIONAL
                    } OPTIONAL
                } OPTIONAL
            },
            criticalExtensions              CHOICE {
                r5                              SEQUENCE {
                    radioBearerSetup-r5         RadioBearerSetup-r5-IEs,
                    -- Container for adding non critical extensions after freezing REL-6
                    radioBearerSetup-r5-add-ext    BIT STRING      OPTIONAL,
                    v640NonCriticalExtensions       SEQUENCE {
                        radioBearerSetup-v6xyext        RadioBearerSetup-v6xyext-IEs,
                        nonCriticalExtensions                SEQUENCE {}     OPTIONAL
                    } OPTIONAL
                },
                criticalExtensions              SEQUENCE {}
            }
        }
    }
}

RadioBearerSetup-r3-IEs ::= SEQUENCE {
    -- User equipment IEs
        rrc-TransactionIdentifier       RRC-TransactionIdentifier,
        integrityProtectionModeInfo     IntegrityProtectionModeInfo        OPTIONAL,
        cipheringModeInfo               CipheringModeInfo                  OPTIONAL,
        activationTime                  ActivationTime                     OPTIONAL,
        new-U-RNTI                      U-RNTI                             OPTIONAL,
```

```
            new-C-RNTI                      C-RNTI                           OPTIONAL,
            rrc-StateIndicator              RRC-StateIndicator,
            utran-DRX-CycleLengthCoeff      UTRAN-DRX-CycleLengthCoefficient OPTIONAL,
    -- UTRAN mobility IEs
            ura-Identity                    URA-Identity                     OPTIONAL,
    -- Core network IEs
            cn-InformationInfo              CN-InformationInfo               OPTIONAL,
    -- Radio bearer IEs
            srb-InformationSetupList        SRB-InformationSetupList         OPTIONAL,
            rab-InformationSetupList        RAB-InformationSetupList         OPTIONAL,
            rb-InformationAffectedList      RB-InformationAffectedList       OPTIONAL,
            dl-CounterSynchronisationInfo   DL-CounterSynchronisationInfo    OPTIONAL,
    -- Transport channel IEs
            ul-CommonTransChInfo            UL-CommonTransChInfo             OPTIONAL,
            ul-deletedTransChInfoList       UL-DeletedTransChInfoList         OPTIONAL,
            ul-AddReconfTransChInfoList     UL-AddReconfTransChInfoList       OPTIONAL,
            modeSpecificTransChInfo         CHOICE {
                fdd                             SEQUENCE {
                    cpch-SetID                      CPCH-SetID               OPTIONAL,
                    addReconfTransChDRAC-Info       DRAC-StaticInformationList OPTIONAL
                },
                tdd                             NULL
            }                                                                OPTIONAL,
            dl-CommonTransChInfo            DL-CommonTransChInfo             OPTIONAL,
            dl-DeletedTransChInfoList       DL-DeletedTransChInfoList         OPTIONAL,
            dl-AddReconfTransChInfoList     DL-AddReconfTransChInfoList       OPTIONAL,
    -- Physical channel IEs
            frequencyInfo                   FrequencyInfo                    OPTIONAL,
            maxAllowedUL-TX-Power           MaxAllowedUL-TX-Power            OPTIONAL,
            ul-ChannelRequirement           UL-ChannelRequirement            OPTIONAL,
            modeSpecificPhysChInfo          CHOICE {
                fdd                             SEQUENCE {
                    dl-PDSCH-Information             DL-PDSCH-Information      OPTIONAL
                },
                tdd                             NULL
            },
            dl-CommonInformation            DL-CommonInformation            OPTIONAL,
            dl-InformationPerRL-List        DL-InformationPerRL-List         OPTIONAL
}

RadioBearerSetup-v3a0ext ::= SEQUENCE {
    new-DSCH-RNTI                   DSCH-RNTI                               OPTIONAL
}

RadioBearerSetup-v4b0ext-IEs ::= SEQUENCE {
    -- Physical channel IEs
        -- ssdt-UL extends SSDT-Information, which is included in
        -- DL-CommonInformation. FDD only.
        ssdt-UL-r4                      SSDT-UL                             OPTIONAL,
        -- The order of the RLs in IE cell-id-PerRL-List is the same as
        -- in IE DL-InformationPerRL-List included in this message
        cell-id-PerRL-List              CellIdentity-PerRL-List             OPTIONAL
}

RadioBearerSetup-v590ext-IEs ::= SEQUENCE {
    -- Physical channel IEs
        dl-TPC-PowerOffsetPerRL-List    DL-TPC-PowerOffsetPerRL-List        OPTIONAL
}


RadioBearerSetup-v6xyext-IEs ::= SEQUENCE {
    plmn-Identity                   PLMN-Identity                          OPTIONAL
}
```

:: Modified PDU ::

```
-- **************************************************
--
-- TRANSPORT CHANNEL RECONFIGURATION
--
-- **************************************************

TransportChannelReconfiguration ::= CHOICE {
    r3                              SEQUENCE {
        transportChannelReconfiguration-r3
                                        TransportChannelReconfiguration-r3-IEs,
        v3a0NonCriticalExtensions       SEQUENCE {
```

```
                    transportChannelReconfiguration-v3a0ext
                                                TransportChannelReconfiguration-v3a0ext,
            laterNonCriticalExtensions          SEQUENCE {
                -- Container for additional R99 extensions
                transportChannelReconfiguration-r3-add-ext      BIT STRING      OPTIONAL,
                v4b0NonCriticalExtensions           SEQUENCE {
                    transportChannelReconfiguration-v4b0ext
                                                TransportChannelReconfiguration-v4b0ext-IEs,
                    v590NonCriticalExtensions           SEQUENCE {
                        transportChannelReconfiguration-v590ext
                                                TransportChannelReconfiguration-v590ext-IEs,
                        v640NonCriticalExtensions       SEQUENCE {
                            transportChannelReconfiguration-v6xyext
                                                    TransportChannelReconfiguration-v6xyext-IEs,
                            nonCriticalExtensions           SEQUENCE {}     OPTIONAL
                        }       OPTIONAL
                    }       OPTIONAL
                }       OPTIONAL
            }       OPTIONAL
        },
        later-than-r3              SEQUENCE {
            rrc-TransactionIdentifier       RRC-TransactionIdentifier,
            criticalExtensions              CHOICE {
                r4                              SEQUENCE {
                    transportChannelReconfiguration-r4
                                                TransportChannelReconfiguration-r4-IEs,
                    v4d0NonCriticalExtensions           SEQUENCE {
                        -- Container for adding non critical extensions after freezing REL-5
                        transportChannelReconfiguration-r4-add-ext      BIT STRING      OPTIONAL,
                        v590NonCriticalExtensions           SEQUENCE {
                            transportChannelReconfiguration-v590ext
                                                TransportChannelReconfiguration-v590ext-IEs,
                            v640NonCriticalExtensions       SEQUENCE {
                                transportChannelReconfiguration-v6xyext
                                                    TransportChannelReconfiguration-v6xyext-IEs,
                                nonCriticalExtensions           SEQUENCE {}     OPTIONAL
                            }       OPTIONAL
                        }       OPTIONAL
                    }       OPTIONAL
                },
                criticalExtensions              CHOICE {
                    r5                              SEQUENCE {
                        transportChannelReconfiguration-r5
                                                TransportChannelReconfiguration-r5-IEs,
                        -- Container for adding non critical extensions after freezing REL-6
                        transportChannelReconfiguration-r5-add-ext      BIT STRING      OPTIONAL,
                        v640NonCriticalExtensions       SEQUENCE {
                            transportChannelReconfiguration-v6xyext
                                                    TransportChannelReconfiguration-v6xyext-IEs,
                            nonCriticalExtensions           SEQUENCE {}     OPTIONAL
                        }       OPTIONAL
                    },
                    criticalExtensions              SEQUENCE {}
                }
            }
        }
    }
}

TransportChannelReconfiguration-r3-IEs ::= SEQUENCE {
    -- User equipment IEs
    rrc-TransactionIdentifier       RRC-TransactionIdentifier,
    integrityProtectionModeInfo     IntegrityProtectionModeInfo             OPTIONAL,
    cipheringModeInfo               CipheringModeInfo                       OPTIONAL,
    activationTime                  ActivationTime                          OPTIONAL,
    new-U-RNTI                      U-RNTI                                  OPTIONAL,
    new-C-RNTI                      C-RNTI                                  OPTIONAL,
    rrc-StateIndicator              RRC-StateIndicator,
    utran-DRX-CycleLengthCoeff      UTRAN-DRX-CycleLengthCoefficient        OPTIONAL,
    -- Core network IEs
    cn-InformationInfo              CN-InformationInfo                      OPTIONAL,
    -- UTRAN mobility IEs
    ura-Identity                    URA-Identity                            OPTIONAL,
    -- Radio bearer IEs
    dl-CounterSynchronisationInfo   DL-CounterSynchronisationInfo           OPTIONAL,
    -- Transport channel IEs
    ul-CommonTransChInfo            UL-CommonTransChInfo                    OPTIONAL,
    ul-AddReconfTransChInfoList     UL-AddReconfTransChInfoList             OPTIONAL,
```

```
        modeSpecificTransChInfo         CHOICE {
            fdd                             SEQUENCE {
                cpch-SetID                      CPCH-SetID                  OPTIONAL,
                addReconfTransChDRAC-Info       DRAC-StaticInformationList  OPTIONAL
            },
            tdd                             NULL
        }                                                                   OPTIONAL,
        dl-CommonTransChInfo            DL-CommonTransChInfo                OPTIONAL,
        dl-AddReconfTransChInfoList     DL-AddReconfTransChInfoList         OPTIONAL,
    -- Physical channel IEs
        frequencyInfo                   FrequencyInfo                       OPTIONAL,
        maxAllowedUL-TX-Power           MaxAllowedUL-TX-Power               OPTIONAL,
        ul-ChannelRequirement           UL-ChannelRequirement               OPTIONAL,
        modeSpecificPhysChInfo          CHOICE {
            fdd                             SEQUENCE {
                dl-PDSCH-Information             DL-PDSCH-Information         OPTIONAL
            },
            tdd                             NULL
        },
        dl-CommonInformation            DL-CommonInformation                OPTIONAL,
        dl-InformationPerRL-List        DL-InformationPerRL-List            OPTIONAL
}

TransportChannelReconfiguration-v3a0ext ::= SEQUENCE {
    new-DSCH-RNTI                       DSCH-RNTI                           OPTIONAL
}

TransportChannelReconfiguration-v4b0ext-IEs ::= SEQUENCE {
    -- Physical channel IEs
        -- ssdt-UL extends SSDT-Information, which is included in
        -- DL-CommonInformation. FDD only.
        ssdt-UL-r4                          SSDT-UL                         OPTIONAL,
        -- The order of the RLs in IE cell-id-PerRL-List is the same as
        -- in IE DL-InformationPerRL-List included in this message
        cell-id-PerRL-List                  CellIdentity-PerRL-List         OPTIONAL
}

TransportChannelReconfiguration-v590ext-IEs ::= SEQUENCE {
    -- Physical channel IEs
        dl-TPC-PowerOffsetPerRL-List    DL-TPC-PowerOffsetPerRL-List        OPTIONAL
}


TransportChannelReconfiguration-v6xyext-IEs ::= SEQUENCE {
    plmn-Identity                       PLMN-Identity                       OPTIONAL
}
```

```
                                    :: Modified PDU ::
```

```
-- **************************************************
--
-- UTRAN MOBILITY INFORMATION
--
-- **************************************************

UTRANMobilityInformation ::= CHOICE {
    r3                              SEQUENCE {
        utranMobilityInformation-r3     UTRANMobilityInformation-r3-IEs,
        v3a0NonCriticalExtensions       SEQUENCE {
            utranMobilityInformation-v3a0ext    UTRANMobilityInformation-v3a0ext-IEs,
            laterNonCriticalExtensions          SEQUENCE {
                -- Container for additional R99 extensions
                utranMobilityInformation-r3-add-ext     BIT STRING      OPTIONAL,
                v640NonCriticalExtensions       SEQUENCE {
                    utranMobilityInformation-v6xyext    UtranMobilityInformation-v6xyext-IEs,
                    nonCriticalExtensions                   SEQUENCE {}     OPTIONAL
                }       OPTIONAL
            }       OPTIONAL
        }       OPTIONAL
    },
    later-than-r3                   SEQUENCE {
        rrc-TransactionIdentifier       RRC-TransactionIdentifier,
        criticalExtensions              CHOICE {
            r5                              SEQUENCE {
                utranMobilityInformation-r5     UTRANMobilityInformation-r5-IEs,
```

```
                    v640NonCriticalExtensions      SEQUENCE {
                        utranMobilityInformation-v6xyext    UtranMobilityInformation-v6xyext-IEs,
                        nonCriticalExtensions         SEQUENCE {}      OPTIONAL
                    } OPTIONAL
                },
                criticalExtensions              SEQUENCE {}
            }
        }
}

UTRANMobilityInformation-r3-IEs ::= SEQUENCE {
    -- User equipment IEs
        rrc-TransactionIdentifier      RRC-TransactionIdentifier,
        integrityProtectionModeInfo    IntegrityProtectionModeInfo          OPTIONAL,
        cipheringModeInfo              CipheringModeInfo                    OPTIONAL,
        new-U-RNTI                     U-RNTI                               OPTIONAL,
        new-C-RNTI                     C-RNTI                               OPTIONAL,
        ue-ConnTimersAndConstants      UE-ConnTimersAndConstants            OPTIONAL,
    -- CN information elements
        cn-InformationInfo             CN-InformationInfoFull               OPTIONAL,
    -- UTRAN mobility IEs
        ura-Identity                   URA-Identity                         OPTIONAL,
    -- Radio bearer IEs
        dl-CounterSynchronisationInfo  DL-CounterSynchronisationInfo        OPTIONAL,
    -- Extension mechanism for non- release99 information
        nonCriticalExtensions          SEQUENCE {}     OPTIONAL
}

UTRANMobilityInformation-v3a0ext-IEs ::= SEQUENCE {
    ue-ConnTimersAndConstants-v3a0ext      UE-ConnTimersAndConstants-v3a0ext
}

UTRANMobilityInformation-r5-IEs ::= SEQUENCE {
    -- User equipment IEs
        integrityProtectionModeInfo    IntegrityProtectionModeInfo          OPTIONAL,
        cipheringModeInfo              CipheringModeInfo                    OPTIONAL,
        new-U-RNTI                     U-RNTI                               OPTIONAL,
        new-C-RNTI                     C-RNTI                               OPTIONAL,
        ue-ConnTimersAndConstants      UE-ConnTimersAndConstants-r5         OPTIONAL,
    -- CN information elements
        cn-InformationInfo             CN-InformationInfoFull               OPTIONAL,
    -- UTRAN mobility IEs
        ura-Identity                   URA-Identity                         OPTIONAL,
    -- Radio bearer IEs
        dl-CounterSynchronisationInfo  DL-CounterSynchronisationInfo-r5     OPTIONAL
}

UtranMobilityInformation-v6xyext-IEs ::= SEQUENCE {
    plmn-Identity                      PLMN-Identity                        OPTIONAL
}
```

11.3 Information element definitions

```
                                   :: New and modified IEs ::

MNC ::=                            SEQUENCE (SIZE (2..3)) OF
                                       Digit

MultiplePLMN-List-r6 ::=           SEQUENCE {
    mibPLMN-Identity                   BOOLEAN,
    multiplePLMNs                      SEQUENCE (SIZE (1..5)) OF
                                          PLMN-IdentityWithOptionalMCC-r6
}

NAS-Message ::=                    OCTET STRING (SIZE (1..4095))

NAS-Synchronisation-Indicator ::=  BIT STRING(SIZE(4))

NAS-SystemInformationGSM-MAP ::=   OCTET STRING (SIZE (1..8))

P-TMSI-GSM-MAP ::=                 BIT STRING (SIZE (32))

PagingRecordTypeID ::=             ENUMERATED {
                                       imsi-GSM-MAP,
                                       tmsi-GSM-MAP-P-TMSI,
                                       imsi-DS-41,
                                       tmsi-DS-41 }

PLMN-Identity ::=                  SEQUENCE {
    mcc                                MCC,
    mnc                                MNC
}

PLMN-IdentityWithOptionalMCC-r6 ::= SEQUENCE {
    mcc                                MCC                     OPTIONAL,
    mnc                                MNC
}

PLMN-Type ::=                      CHOICE {
    gsm-MAP                            SEQUENCE {
        plmn-Identity                     PLMN-Identity
    },
    ansi-41                           SEQUENCE {
        p-REV                             P-REV,
        min-P-REV                         Min-P-REV,
        sid                               SID,
        nid                               NID
    },
    gsm-MAP-and-ANSI-41               SEQUENCE {
        plmn-Identity                     PLMN-Identity,
        p-REV                             P-REV,
        min-P-REV                         Min-P-REV,
        sid                               SID,
        nid                               NID
    },
    spare                             NULL
}
```

```
                                   :: New and modified IEs ::

MasterInformationBlock ::=         SEQUENCE {
        mib-ValueTag                      MIB-ValueTag,
        -- TABULAR: The PLMN identity and ANSI-41 core network information
        -- are included in PLMN-Type.
        plmn-Type                         PLMN-Type,
        sibSb-ReferenceList               SIBSb-ReferenceList,
    -- Extension mechanism for non- release99 information
        v640NonCriticalExtensions         SEQUENCE {
            masterInformationBlock-v6xyext    MasterInformationBlock-v6xyext    OPTIONAL,
            nonCriticalExtensions             SEQUENCE {}                       OPTIONAL
        } OPTIONAL
}

MasterInformationBlock-v6xyext ::=  SEQUENCE {
    multiplePLMN-List                  MultiplePLMN-List-r6             OPTIONAL
```

}

```
MIB-ValueTag ::=                    INTEGER (1..8)
```

----------- End of Modifications ------------