

TSG-RAN Meeting #14
Kyoto, Japan, 11 - 14 December 2001

RP-010763

Title: Agreed CRs (Release '99 and Rel-4 category A) to TS 25.331 (1)
Source: TSG-RAN WG2
Agenda item: 8.2.3

Doc-1st-	Status-	Spec	CR	Rev	Phase	Subject	Cat	Version	Versio
R2-012669	agreed	25.331	1087	1	R99	Corrections to RRC information containers	F	3.8.0	3.9.0
R2-012751	agreed	25.331	1088		Rel-4	Corrections to RRC information containers	A	4.2.1	4.3.0
R2-012470	agreed	25.331	1089		R99	Removal of Block SSTD	F	3.8.0	3.9.0
R2-012670	agreed	25.331	1090		Rel-4	Removal of Block SSTD	A	4.2.1	4.3.0
R2-012486	agreed	25.331	1097		R99	COUNT-C-SFN frame difference measurement	F	3.8.0	3.9.0
R2-012671	agreed	25.331	1098		Rel-4	COUNT-C-SFN frame difference measurement	A	4.2.1	4.3.0
R2-012672	agreed	25.331	1099	1	R99	Trigger for deletion of ciphering and integrity keys	F	3.8.0	3.9.0
R2-012673	agreed	25.331	1100		Rel-4	Trigger for deletion of ciphering and integrity keys	A	4.2.1	4.3.0
R2-012715	agreed	25.331	1101	1	R99	Correction to P_compensation calculation for GSM neighbour cells	F	3.8.0	3.9.0
R2-012746	agreed	25.331	1102		Rel-4	Correction to P_compensation calculation for GSM neighbour cells	A	4.2.1	4.3.0
R2-012489	agreed	25.331	1103		R99	Preconfigurations in case of equivalent PLMNs	F	3.8.0	3.9.0
R2-012677	agreed	25.331	1104		Rel-4	Preconfigurations in case of equivalent PLMNs	A	4.2.1	4.3.0
R2-012678	agreed	25.331	1108	1	R99	Handling of DRX cycle and U-RNTI in RRC connection setup and handling of TrCH information	F	3.8.0	3.9.0
R2-012747	agreed	25.331	1109		Rel-4	Handling of DRX cycle and U-RNTI in RRC connection setup and handling of TrCH information	A	4.2.1	4.3.0
R2-012679	agreed	25.331	1110	1	R99	Correction to Information Element names	F	3.8.0	3.9.0
R2-012680	agreed	25.331	1111		Rel-4	Correction to Information Element names	A	4.2.1	4.3.0
R2-012496	agreed	25.331	1112		R99	Correction of Description of IE "SSDT Information"	F	3.8.0	3.9.0
R2-012681	agreed	25.331	1113		Rel-4	Correction of Description of IE "SSDT Information"	A	4.2.1	4.3.0
R2-012734	agreed	25.331	1114	2	R99	Clarification on Cell Identity and correction to reference to BAND_INDICATOR	F	3.8.0	3.9.0
R2-012735	agreed	25.331	1115		Rel-4	Clarification on Cell Identity and correction to reference to BAND_INDICATOR	A	4.2.1	4.3.0

CHANGE REQUEST

⌘ **25.331 CR 1087** ⌘ ev **r1** ⌘ Current version: **3.8.0** ⌘

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

Proposed change affects: ⌘ (U)SIM ME/UE Radio Access Network Core Network

Title:	⌘ Corrections to RRC information containers		
Source:	⌘ TSG-RAN WG2		
Work item code:	⌘ TEI	Date:	⌘ 30-11-2001
Category:	⌘ F	Release:	⌘ R99
	<p>Use <u>one</u> of the following categories:</p> <p>F (correction)</p> <p>A (corresponds to a correction in an earlier release)</p> <p>B (addition of feature),</p> <p>C (functional modification of feature)</p> <p>D (editorial modification)</p> <p>Detailed explanations of the above categories can be found in 3GPP TR 21.900.</p>		<p>Use <u>one</u> of the following releases:</p> <p>2 (GSM Phase 2)</p> <p>R96 (Release 1996)</p> <p>R97 (Release 1997)</p> <p>R98 (Release 1998)</p> <p>R99 (Release 1999)</p> <p>REL-4 (Release 4)</p> <p>REL-5 (Release 5)</p>

Reason for change: ⌘ The changes proposed in this CR concern the following

- Clarification of the requirements concerning the transfer of transparent containers e.g. regarding which IEs the UE shall include when sending the information across another RAT

Furthermore, a number of changes are proposed that facilitate improvement of the specification of other interfaces across which RRC information is transferred by:

- Adding/ improving the support for extension of the RRC information in a manner that is more transparent to the interfaces across which the information is carried
- Aligning the transfer of RRC information as transferred across different interfaces to improve transparency/ simplify the handling in intermediate nodes

For further information, see Tdoc R2-012467

Summary of change: ⌘ A first draft The original revision of this CR introduces the following changes

- "HandoverToUTRANInfo" is renamed to "InterRATHandoverInfo" since the information is also transferred during handover from UTRAN
- A new procedure specification is added for Inter RAT handover info transfer. The procedure also clarifies that the RRC information container failure is not applicable towards the UE since the inter RAT handover info may only include non critical extensions
- Two version are defined of the "InterRATHandoverInfo" message; one with and one without the GSM classmark information. The container version without classmark is used across the GSM air interface (UTRAN classmark change) and the network interface, from RNC to BSS (upon handover from UTRAN). The container with classmark is used from BSC to target RNC (upon handover to UTRAN). The contents of the container is respecified to facilitate extension. This is done in a manner that is backwards compatible with UEs based on the JUN-01 version of the specification. The RRC information

transferred across network interfaces has been modified to avoid excessive transcoding/ handling in the BSS (compatible with what was used across the GSM air interface). The latter change is not fully backwards compatible, although the change has isolated impact

- Clarification is added that RRC information containers may be transferred between UE and another RAT
- Clarification that is added concerning general error handling e.g. regarding the forwarding of diagnostics information in subsequent handover/ relocation requests
- The RRC INFORMATION CONTAINER FAILURE INFO has been moved to ch. 10 since the UE may apply it
- Inclusion of v380 extensions for UE- capability within the HANDOVER TO UTRAN INFO and SRNS RELOCATION INFO container
- The terminology regarding RRC information containers has been modified so that an RRC container is used only for the top level, including different choices. The RRC information that each choice value refers to is called an RRC message (as already the case for the HANDOVER TO UTRAN COMMAND message). Names have been aligned accordingly e.g. RRC INFORMATION CONTAINER FAILURE INFO is changed into RRC FAILURE INFO
- Editorial improvements (e.g. correction of references)

Main changes as compared to the draft version are as follows:

- The option to request partial information has been removed from the procedure on transfer of capability information to align with 04.18 from which this option will also be removed in corresponding CRs <conditional>
- The need of the failure information included in the HANDOVER TO UTRAN INFO and SRNS RELOCATION INFO container has been changed from MP to OP
- For RRC message INTER RAT HANDOVER INFO WITH INTER RAT CAPABILITIES an additional option to include non- critical extensions has been included. It should be noted that the octet string including RRC message INTER RAT HANDOVER INFO includes the non- critical extensions sent by the UE. The additional option concerns the non- critical extensions added by the BSC. Two separate extension options facilitate transparent handling. This construct is possible because a length field precedes the INTER RAT HANDOVER INFO message.
- CN drx cycle length information was missing from the ASN.1 part of SRNS Relocation Info message and has been added (as an extension)
- Some editorial changes (mainly ch. 14)

Changes as compared to the original version of this CR are as follows:

- Clarification has been added concerning the initialisation and handling of variable INTER_RAT_HANDOVER_INFO_TRANSFERRED. The updating of UE_RADIO_CAPABILITIES_TRANSFERRED with information transferred via another RAT has been removed
- Editorial changes to chapter 14
- Editorial correction to ASN.1

Isolated impact

- This CR only affects the inter RAT handover to UTRAN. The CR has isolated impact; only the function to be corrected is affected.
- The CR includes one ASN.1 change. However, this concerns the transfer of classmark information prior to handover. New implementations expect the information outside the container. Lack of this information will only affect performance (later start of measurements on neighbouring UTRA cells)
- The CR includes clarifications that have no impact for implementations that have assumed the behaviour as proposed in this CR

Consequences if not approved:	⌘	The requirements concerning the transfer of RRC information across other interfaces remains ambiguous which may result in interoperability problems when performing inter RAT handover	
Clauses affected:	⌘	8.1.16 (new), 8.1.16.1 (new), 8.1.16.2 (new), 8.1.16.3 (new), 8.3.6.3, 8.3.6.4, 9.2, 9.3b, 9.4, 9.5, 9.6, 9.7, 9.8, 10.2.14a (new), 10.2.41a (new), 10.3.3.42b (new), 10.3.4.5a (new), 11.2, 11.3, 11.5, 11.6, 13.4.10a (new), 14.12.0, 14.12.0a, 14.12.1, 14.12.2, 14.12.3, 14.12.4, 14.12.4.0 (new), 14.12.4.0a (new), 14.12.4.1, 14.12.4.2, 14.12.4.3, 14.13, 14.13.0, 14.13.1, 14.13.1.1, 14.13.2, 14.13.2.1, 14.13.2.2, 14.13.2.3, 14.13.2.4	
Other specs affected:	⌘	<input type="checkbox"/> Other core specifications <input type="checkbox"/> Test specifications <input type="checkbox"/> O&M Specifications	⌘ 25.331 v4.2.1, CR 1088
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/3G_Specs/CRs.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.

8.1.16 Inter RAT handover information transfer



Figure y: Inter RAT handover information transfer, normal flow

8.1.16.1 General

The inter RAT handover information transfer procedure is used by the UE to convey RRC information needed for inter RAT handover to UTRAN.

8.1.16.2 Initiation

The UE shall initiate the inter RAT handover information transfer procedure in the following situations:

- a radio access technology other than UTRA, e.g. GSM, using radio access technology-specific procedures, orders the UE to provide the INTER RAT HANDOVER INFO container message;
- a radio access technology other than UTRA, e.g. GSM, using radio access technology-specific procedures, configures the UE to send the INTER RAT HANDOVER INFO container message upon system specific conditions but not involving an explicit order e.g. early classmark sending upon entering connected mode
- while in connected mode using another radio access technology, the inter RAT handover info changes compared to what has previously been sent via the other radio access technology.

To determine if the inter RAT handover info has changed compared to what has previously been sent, the UE shall store the information last sent in the variable INTER_RAT_HANDOVER_INFO_TRANSFERRED. If this variable has not yet been set, the UE shall not initiate the inter RAT handover information transfer procedure due to change of inter RAT handover info that stored in the variable INTER_RAT_HANDOVER_INFO_TRANSFERRED.

Note Currently neither the UE security information nor the pre-defined configuration status information change while in connected mode using GSM radio access technology.

8.1.16.3 INTER RAT HANDOVER INFO message contents to set

The UE shall:

- ~~— If INTER RAT HANDOVER INFO message is ordered using radio access technology specific procedures, the UE shall:~~
 - ~~— include the pre defined configuration status information if the UE is ordered to provide this information within the radio access technology specific procedure;~~
 - ~~— include the UE security information if the UE is ordered to provide this information within the radio access technology specific procedure;~~
 - ~~— include the UTRA UE radio access capability information if the UE is ordered to provide this information within the radio access technology specific procedure;~~
- ~~— If INTER RAT HANDOVER INFO message is sent upon radio access technology specific conditions not involving an explicit order, the UE shall:~~

- ~~— include the pre defined configuration status information, the UE security information and the UTRA UE radio access capability information;~~
- ~~— If INTER RAT HANDOVER INFO message is sent due to a change of the the inter RAT handover info, the UE shall:~~
 - ~~include the IE “Pre-defined configuration status information” and; the IE “UE security information” and the UTRA UE radio access capability information;~~
 - ~~include the IE "UE radio access capability" and the IE "UE radio access capability extension" in accordance with the following:~~
 - ~~if the UE supports multiple UTRA FDD Frequency Bands; or~~
 - ~~if the UE supports a single UTRA FDD Frequency Band different from 2100 MHz:~~
 - ~~include the IE "UE radio access capability", excluding IEs "RF capability FDD" and "Measurement capability";~~
 - ~~include the IE "UE radio access capability extension", including the IEs "RF capability FDD extension" and the "Measurement capability extension" associated with each supported UTRA FDD frequency band indicated in the IE "Frequency band";~~
 - ~~else:~~
 - ~~include the IE "UE radio access capability", including the IEs "RF capability FDD" and "Measurement capability" associated with the 2100 MHz UTRA FDD frequency band;~~
 - ~~initiate the transfer of the INTER RAT HANDOVER INFO message via the other radio access technology, using radio access technology-specific procedures;~~
 - ~~— if the value of some the information elements included in the pre defined configuration status information and the UE security information has changed compared to that stored in variable INTER RAT HANDOVER INFO TRANSFERRED, update that variable accordingly;~~
 - ~~store the IEs “Pre-defined configuration status information”, the IE “UE security information” UTRA, the IE "UE radio access capability" and the IE "UE radio access capability extension", if included in the INTER RAT HANDOVER MESSAGE, in variable INTER RAT HANDOVER INFO TRANSFERRED~~
 - ~~and the procedure ends.~~

8.3.6.3 Reception of HANDOVER TO UTRAN COMMAND message by the UE

The UE shall be able to receive a HANDOVER TO UTRAN COMMAND message and perform an inter-RAT handover, even if no prior UE measurements have been performed on the target UTRAN cell and/or frequency.

The UE shall act upon all received information elements as specified in subclause 8.6, unless specified otherwise in the following. The UE shall:

- store a U-RNTI value (32 bits), which is derived by the IEs "SRNC identity" (12 bits) and "S-RNTI 2" (10 bits) included in IE "U-RNTI-short". In order to produce a full size U-RNTI value, a full size "S-RNTI" (20 bits) shall be derived by padding the IE "S-RNTI 2" with 10 zero bits in the most significant positions; and
- initialise the variable ESTABLISHED_SIGNALLING_CONNECTIONS with the signalling connections that remains after the handover according to the specifications of the source RAT;
- initialise the variable UE_CAPABILITIES_TRANSFERRED with the UE capabilities that have been transferred to the network up to the point prior to the handover, if any;
- initialise the variable TIMERS_AND_CONSTANTS to the default values and start to use those timer and constants values;
- if IE "Specification mode" is set to "Preconfiguration" and IE "Preconfiguration mode" is set to "Predefined configuration":
 - initiate the radio bearer and transport channel configuration in accordance with the predefined parameters identified by the IE "Predefined configuration identity";
 - initiate the physical channels in accordance with the predefined parameters identified by the IE "Predefined radio configuration identity" and the received physical channel information elements;
 - store information about the established radio access bearers and radio bearers according to the IE "Predefined configuration identity"; and
 - set the IE "RAB Info Post" in the variable ESTABLISHED_RABS and the IE "Re-establishment timer" in the IE "RAB Info" in the variable ESTABLISHED_RABS to "useT314";
- if IE "Specification mode" is set to "Preconfiguration" and IE "Preconfiguration mode" is set to "Default configuration":
 - initiate the radio bearer and transport channel configuration in accordance with the default parameters identified by the IE "Default configuration mode" and IE "Default configuration identity";
 - initiate the physical channels in accordance with the default parameters identified by the IE "Default configuration mode" and IE "Default configuration identity" and the received physical channel information elements;

NOTE IE "Default configuration mode" specifies whether the FDD or TDD version of the default configuration shall be used

- set the IE "RAB Info Post" in the variable ESTABLISHED_RABS and the IE "Re-establishment timer" in the IE "RAB Info" in the variable ESTABLISHED_RABS to "useT314";
- if IE "Specification mode" is set to "Preconfiguration":
 - use the following values for parameters that are neither signalled within the HANDOVER TO UTRAN ~~COMPLETE COMMAND~~ message nor included within pre-defined or default configuration:
 - 0 dB for the power offset $P_{\text{Pilot-DPCH}}$ bearer in FDD;
 - calculate the Default DPCH Offset Value using the following formula:
 - in FDD:

$$\text{Default DPCH Offset Value} = (\text{SRNTI 2 mod } 600) * 512$$
 - in TDD:

Default DPCH Offset Value = (SRNTI 2 mod 7)

- handle the above Default DPCH Offset Value as if an IE with that value was included in the message, as specified in subclause 8.6.6.21;
- if IE "Specification mode" is set to "Complete specification":
 - initiate the radio bearer, transport channel and physical channel configuration in accordance with the received radio bearer, transport channel and physical channel information elements;
- perform an open loop estimation to determine the UL transmission power according to subclause 8.5.3;
- if ciphering has been activated and ongoing in the radio access technology from which inter- RAT handover is performed:
 - for the CN domain as in the IE "CN domain identity" which is included in the IE "RAB info" of the IE "RAB information to setup":
 - set the HFN component of the COUNT-C variable for all UL and DL radio bearers and all UL and DL signalling radio bearers that use RLC-AM and RLC-UM to the START value as stored in the USIM for that CN domain; and
 - set the remaining LSBs of the HFN component of COUNT-C to zero;
 - set the HFN component of the COUNT-C variable for all UL and DL radio bearers and all UL and DL signalling radio bearers that use the transparent mode of RLC to zero, while not incrementing the value of the HFN component of the COUNT-C variable at each CFN cycle; and
 - set the CFN component of the COUNT-C variable to the value of the CFN as calculated in subclause 8.5.15;
 - set the IE "Status" in the variable CIPHERING_STATUS to "Started";
 - apply the same ciphering (ciphered/unciphered, algorithm) as prior to inter-RAT handover, unless a change of algorithm is requested by means of the IE "Ciphering algorithm";
 - apply ciphering immediately upon reception of the HANDOVER TO UTRAN COMMAND;

If the UE succeeds in establishing the connection to UTRAN, it shall:

- if the IE "Status" in the variable CIPHERING_STATUS of a CN domain is set to "Started" and transparent mode radio bearers have been established by this procedure for that CN domain:
 - include the IE "COUNT-C activation time" in the response message and specify a CFN value other than the default, "Now" for this IE;
 - at the CFN value as indicated in the response message in the IE "COUNT-C activation time":
 - set the HFN component of the COUNT-C variable to the START value as indicated in the IE "START list" of the response message for the relevant CN domain; and
 - set the remaining LSBs of the HFN component of COUNT-C to zero;
 - increment the HFN component of the COUNT-C variable by one;
 - set the CFN component of the COUNT-C to the value of the IE "COUNT-C activation time" of the response message. The HFN component and the CFN component completely initialise the COUNT-C variable;
 - step the COUNT-C variable, as normal, at each CFN value. The HFN component is no longer fixed in value but incremented at each CFN cycle;
- transmit a HANDOVER TO UTRAN COMPLETE message on the uplink DCCH, using the new ciphering configuration, only if ciphering has been started;
- when the HANDOVER TO UTRAN COMPLETE message has been submitted to lower layers for transmission:

- initialise variables upon entering UTRA RRC connected mode as specified in subclause 13.4;

~~initialise variable UE_CAPABILITY_TRANSFERRED with the value of the corresponding IEs included in INTER_RAT_HANDOVER_INFO_TRANSFERRED;~~

- and the procedure ends.

8.3.6.4 Invalid Handover to UTRAN command message

If the UE receives a HANDOVER TO UTRAN COMMAND message, which contains a protocol error causing the variable PROTOCOL_ERROR_REJECT to be set to TRUE according to clause 9, the UE shall perform procedure specific error handling according to the source radio access technology. The UE shall:

- if allowed by the source RAT:
 - transmit an RRC ~~STATUS_FAILURE_INFO~~ message to the source radio access technology; and
 - include the IE "Protocol error information" with contents set to the value of the variable PROTOCOL_ERROR_INFORMATION;
- Other details may be provided in the specifications related to the source radio access technology.

Note The other RAT may include the above diagnostics information in a subsequent handover request towards the same RNC.

9.2 ASN.1 violation or encoding error

If the UE receives an RRC message on the DCCH for which the encoded message does not result in any valid abstract syntax value [49] (or "encoding error"), it shall perform the following. The UE shall:

- set the variable `PROTOCOL_ERROR_REJECT` to TRUE;
- transmit an RRC STATUS message on the uplink DCCH. The IE "Protocol error information" shall contain an IE "Protocol error cause" set to "ASN.1 violation or encoding error";
- when RRC STATUS message has been submitted to lower layers for transmission:
 - continue with any ongoing processes and procedures as if the invalid message had not been received.

If the UE receives an RRC message sent ~~to the UE in an RRC information container~~ via a radio access technology other than UTRAN, for which the encoded message does not result in any valid abstract syntax, the UE shall:

- set the variable `PROTOCOL_ERROR_REJECT` to TRUE;
- set the IE "Protocol error cause" in the variable `PROTOCOL_ERROR_INFORMATION` to "ASN.1 violation or encoding error";
- perform procedure specific error handling according to clause 8.

If a reassembled set of system information segments received in messages on the BCCH does not result in any valid abstract syntax value, the UE shall:

- ignore the reassembled set of system information segments;
- treat the rest of each message containing the ignored system information segments as if those segments were not present.

If the UE receives an RRC message on the BCCH, PCCH, CCCH or SHCCH for which the encoded message does not result in any valid abstract syntax value, it shall ignore the message.

9.3 Unknown or unforeseen message type

If a UE receives an RRC message on the DCCH with a message type not defined for the DCCH it shall:

- set the variable `PROTOCOL_ERROR_REJECT` to TRUE;
- transmit an RRC STATUS message on the uplink DCCH. The IE "Protocol error information" shall contain an IE "Protocol error cause" set to "Message type non-existent or not implemented";
- when the RRC STATUS message has been submitted to lower layers for transmission:
 - continue with any ongoing processes and procedures as if the invalid message had not been received.

If the UE receives an RRC message on the BCCH, PCCH, CCCH or SHCCH with a message type not defined for the logical channel type the message was received on, it shall ignore the message.

9.3a Unsolicited received message

If the UE receives any of the following messages:

- an RRC CONNECTION SETUP message addressed to the UE on the CCCH; or
- an RRC CONNECTION REJECT message addressed to the UE on the CCCH; or
- a UE CAPABILITY INFORMATION CONFIRM message on the DCCH; or
- a CELL UPDATE CONFIRM message addressed to the UE on the CCCH or on the DCCH; or

- a URA UPDATE CONFIRM message addressed to the UE on the CCCH or on the DCCH

and no procedure is ongoing according to clause 8 which expects the message to be received:

the UE shall:

- ignore the received message.

9.3b Unexpected critical message extension

If the UE receives an RRC message on the DCCH, or addressed to the UE on the CCCH or on the SHCCH, or sent to the UE in an RRC information container via a radio access technology other than UTRAN, containing an undefined critical message extension, the UE shall:

- set the variable `PROTOCOL_ERROR_REJECT` to TRUE;
- set the IE "Protocol error cause" in the variable `PROTOCOL_ERROR_INFORMATION` to "Message extension not comprehended";
- if the IE "Message Type" of the received message is not present in the table "Rejected transactions" in the variable `TRANSACTIONS`:
 - store the IE "Message type" of the received message in the table "Rejected transactions" in the variable `TRANSACTIONS`; and
 - set the IE "RRC transaction identifier" to zero in that table entry;
- perform procedure specific error handling according to clause 8.

If the UE receives an RRC message on the BCCH or PCCH, containing an undefined critical message extension, the UE shall:

- ignore the message.

9.4 Unknown or unforeseen information element value, mandatory information element

If the UE receives an RRC message on the DCCH, or addressed to the UE on the CCCH or on the SHCCH, or sent to the UE in an RRC information container via a radio access technology other than UTRAN, with a mandatory IE having a value, including choice, reserved for future extension (spare), a value not used in this version of the specification or when the encoded IE does not result in any valid abstract syntax value [49] for this IE, the UE shall:

- if a default value of the IE is defined:
 - treat the rest of the message using the default value of the IE;
- if no default value of the IE is defined:
 - set the variable `PROTOCOL_ERROR_REJECT` to TRUE;
 - set the IE "Protocol error cause" in the variable `PROTOCOL_ERROR_INFORMATION` to "Information element value not comprehended";
 - perform procedure specific error handling according to clause 8.

If the UE receives a system information block on the BCCH with a mandatory IE having a value reserved for future extension (spare), a value not used in this version of the specification or when the encoded IE does not result in any valid abstract syntax value for this IE, the UE shall:

- if a default value of the IE is defined:
 - treat the rest of the system information block using the default value of the IE;
- if no default value of the IE is defined:

- ignore the system information block.

If the UE receives an RRC message on the BCCH or PCCH with a mandatory IE having a value reserved for future extension (spare), a value not used in this version of the specification or when the encoded IE does not result in any valid abstract syntax value for this IE, it shall

- if a default value of the IE is defined:
 - treat the rest of the message using the default value of the IE.
- if no default value of the IE is defined:
 - ignore the message.

9.5 Conditional information element error

If the UE receives an RRC message on the DCCH, BCCH, PCCH, or addressed to the UE on the CCCH or on the SHCCH, or sent to the UE in an RRC information container via a radio access technology other than UTRAN, for which the specified conditions for absence of a conditional IE are met and that IE is present, the UE shall:

- ignore the IE;
- treat the rest of the message as if the IE was not present.

If the UE receives an RRC message on the DCCH, or addressed to the UE on the CCCH or on the SHCCH, or sent to the UE via a radio access technology other than UTRAN, for which the specified conditions for presence of a conditional IE are met and that IE is absent, the UE shall:

- set the variable `PROTOCOL_ERROR_REJECT` to `TRUE`;
- set the IE "Protocol error cause" in the variable `PROTOCOL_ERROR_INFORMATION` to "Conditional information element error";
- perform procedure specific error handling according to clause 8.

If the UE receives a system information block on the BCCH for which the specified conditions for presence of a conditional IE are met and that IE is absent, the UE shall:

- ignore the system information block.

If the UE receives an RRC message on the BCCH or PCCH for which the specified conditions for presence of a conditional IE are met and that IE is absent, the UE shall:

- ignore the message.

9.6 Unknown or unforeseen information element value, conditional information element

If the UE receives an RRC message on the DCCH, or addressed to the UE on the CCCH or on the SHCCH, or sent to the UE in an RRC information container via a radio access technology other than UTRAN, for which the specified conditions for presence of a conditional IE are met, that IE is present, and that IE has a value, including choice, reserved for future extension (spare), a value not used in this version of the specification or when the encoded IE does not result in any valid abstract syntax value [49] for this IE, the UE shall:

- if a default value of the IE is defined:
 - treat the rest of the message using the default value of the IE;
- if no default value of the IE is defined:
 - set the variable `PROTOCOL_ERROR_REJECT` to `TRUE`;

- set the IE "Protocol error cause" in the variable PROTOCOL_ERROR_INFORMATION to "Information element value not comprehended";
- perform procedure specific error handling according to clause 8.

If the UE receives a system information block on the BCCH for which the specified conditions for presence of a conditional IE are met, that IE is present, and that IE has a value, including choice, reserved for future extension (spare), a value not used in this version of the specification or when the encoded IE does not result in any valid abstract syntax value for this IE, the UE shall:

- if a default value of the IE is defined:
 - treat the rest of the system information block using the default value of the IE;
- if no default value of the IE is defined:
 - ignore the system information block.

If the UE receives an RRC message on the BCCH or PCCH for which the specified conditions for presence of a conditional IE are met, that IE is present, and that IE has a value, including choice, reserved for future extension (spare), a value not used in this version of the specification or when the encoded IE does not result in any valid abstract syntax value for this IE, the UE shall:

- if a default value of the IE is defined:
 - treat the rest of the message using the default value of the IE;
- if no default value of the IE is defined:
 - ignore the message.

9.7 Unknown or unforeseen information element value, optional information element

If the UE receives an RRC message on the DCCH, or addressed to the UE on the CCCH or on the SHCCH, or sent to the UE in an RRC information container via a radio access technology other than UTRAN, with an optional IE having a value, including choice, reserved for future extension (spare), a value not used in this version of the specification or when the encoded IE does not result in any valid abstract syntax value [49] for this IE, it shall:

- ignore the value of the IE;
- treat the rest of the message as if the IE was not present.

If the UE receives a system information block on the BCCH with an optional IE having a value, including choice, reserved for future extension (spare), a value not used in this version of the specification or when the encoded IE does not result in any valid abstract syntax value for this IE, it shall:

- ignore the value of the IE;
- treat the rest of the system information block as if the IE was not present.

If the UE receives an RRC message on the BCCH or PCCH with an optional IE having a value, including choice, reserved for future extension (spare), a value not used in this version of the specification or when the encoded IE does not result in any valid abstract syntax value for this IE, it shall:

- ignore the value of the IE;
- treat the rest of the message as if the IE was not present.

9.8 Unexpected non-critical message extension

If the UE receives an RRC message on the DCCH, or addressed to the UE on the CCCH or on the SHCCH, or sent to the UE in an RRC information container via a radio access technology other than UTRAN, containing an undefined non-critical message extension, the UE shall:

- ignore the content of the extension and the message contents after the extension, but treat the parts of the message up to the extension normally.

If the UE receives a system information block on the BCCH containing an undefined non-critical message extension, the UE shall:

- ignore the content of the extension and the system information block contents after the extension, but treat the parts of the system information block up to the extension normally.

If the UE receives an RRC message on the BCCH or PCCH, containing an undefined non-critical message extension, the UE shall:

- ignore the content of the extension and the message contents after the extension, but treat the parts of the message up to the extension normally.

10.2.41a RRC FAILURE INFO

This message is sent by the UE via another radio access technology to provide information about the cause for failure to perform the requested operation.

RLC-SAP: N/A (Sent through a different RAT)

Logical channel: N/A (Sent through a different RAT)

Direction: UE → ~~other RAT~~UTRAN

<u>Information Element/Group Name</u>	<u>Need</u>	<u>Multi</u>	<u>Type and reference</u>	<u>Semantics description</u>
<u>Other Information elements</u>				
<u>Failure cause</u>	<u>MP</u>		<u>Failure cause</u> 10.3.3.13	
<u>Protocol error information</u>	<u>CV-ProtErr</u>		<u>Protocol error information</u> 10.3.8.12	

<u>Condition</u>	<u>Explanation</u>
<u>ProtErr</u>	Presence is mandatory if the IE "Failure cause" has the value "Protocol error"; otherwise the element is not needed in the message.

10.2.14a INTER RAT HANDOVER INFO

This message is sent by ~~to~~ the UE via another radio access technology system to provide information to the target RNC when preparing for ~~make~~ a handover to UTRAN.

RLC-SAP: N/A (Sent through a different RAT)

Logical channel: N/A (Sent through a different RAT)

Direction: UE → UTRAN

Information Element/Group Name	Need	Multi	Type and reference	Semantics description
Radio Bearer IEs				
<u>Pre-defined configuration status information</u>	<u>OP</u>		<u>Pre-defined configuration status information 10.3.4.x</u>	
UE Information elements				
<u>UE security information</u>	<u>OP</u>		<u>UE security information 10.3.3.x</u>	
<u>UE radio access capability</u>	<u>OP</u>		<u>UE radio access capability 10.3.3.42</u>	
<u>UE radio access capability extension</u>	<u>OP</u>		<u>UE radio access capability extension 10.3.3.42a</u>	

10.3.3.42b UE security information

Upon receiving a UE information request from another system, the UE shall indicate the requested security information. The UE security information includes the following RRC information.

<u>Information Element/Group name</u>	<u>Need</u>	<u>Multi</u>	<u>Type and reference</u>	<u>Semantics description</u>
UE information elements				
START-CS	MP		START 10.3.3.38	START values to be used in this CN domain.

10.3.4.5a Pre-defined configuration status information

Another system may provide the UE with one or more pre- defined UTRAN configurations, comprising of radio bearer, transport channel and physical channel parameters. If requested, the UE shall indicate the configurations it has stored. The pre-defined configuration status information should include the following RRC information.

<u>Information Element/Group name</u>	<u>Need</u>	<u>Multi</u>	<u>Type and reference</u>	<u>Semantics description</u>
RB information elements				
Predefined configurations		maxPredef ConfigCou nt		The list is in order of preconfiguration identity
>Predefined configuration value tag	OP		Predefined configuration value tag 10.3.4.6	The UE shall include the value tag if it has stored the concerned configuration

<u>Multi Bound</u>	<u>Explanation</u>
MaxPredefConfigCount	Maximum number of predefined configurations

11.2 PDU definitions

```

-----
--
-- TABULAR: The message type and integrity check info are not
-- visible in this module as they are defined in the class module.
-- Also, all FDD/TDD specific choices have the FDD option first
-- and TDD second, just for consistency.
--
-----

PDU-definitions DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

-----
--
-- IE parameter types from other modules
--
-----

IMPORTS

-- Core Network IEs :
   CN-DomainIdentity,
   CN-InformationInfo,
   CN-InformationInfoFull,
   NAS-Message,
   PagingRecordTypeID,
-- UTRAN Mobility IEs :
   URA-Identity,
-- User Equipment IEs :
   ActivationTime,
   C-RNTI,
   CapabilityUpdateRequirement,
   CellUpdateCause,
   CipheringAlgorithm,
   CipheringModeInfo,
   EstablishmentCause,
   FailureCauseWithProtErr,
   FailureCauseWithProtErrTrId,
   InitialUE-Identity,
   IntegrityProtActivationInfo,
   IntegrityProtectionModeInfo,
   N-308,
   PagingCause,
   PagingRecordList,
   ProtocolErrorIndicator,
   ProtocolErrorIndicatorWithMoreInfo,
   Rb-timer-indicator,
   RedirectionInfo,
   RejectionCause,
   ReleaseCause,
   RRC-StateIndicator,
   RRC-TransactionIdentifier,
   SecurityCapability,
   START-Value,
   STARTList,
   U-RNTI,
   U-RNTI-Short,
   UE-RadioAccessCapability,
   UE-RadioAccessCapability-v370ext,
   UE-RadioAccessCapability-v380ext,
   DL-PhysChCapabilityFDD-v380ext,
   UE-ConnTimersAndConstants,
   URA-UpdateCause,
   UTRAN-DRX-CycleLengthCoefficient,
   WaitTime,
-- Radio Bearer IEs :
   DefaultConfigIdentity,
   DefaultConfigMode,
   DL-CounterSynchronisationInfo,
   PredefinedConfigIdentity,
   PredefinedConfigStatusList,
   RAB-Info,
   RAB-Info-Post,

```

```

RAB-InformationList,
RAB-InformationReconfigList,
RAB-InformationSetupList,
RB-ActivationTimeInfoList,
RB-COUNT-C-InformationList,
RB-COUNT-C-MSB-InformationList,
RB-IdentityList,
RB-InformationAffectedList,
RB-InformationReconfigList,
RB-InformationReleaseList,
SRB-InformationSetupList,
SRB-InformationSetupList2,
UL-CounterSynchronisationInfo,
-- Transport Channel IEs:
  CPCH-SetID,
  DL-AddReconfTransChInfo2List,
  DL-AddReconfTransChInfoList,
  DL-CommonTransChInfo,
  DL-DeletedTransChInfoList,
  DRAC-StaticInformationList,
  TFC-Subset,
  TFCS-Identity,
  UL-AddReconfTransChInfoList,
  UL-CommonTransChInfo,
  UL-DeletedTransChInfoList,
-- Physical Channel IEs :
  Alpha,
  CCTrCH-PowerControlInfo,
  ConstantValue,
  CPCH-SetInfo,
  DL-CommonInformation,
  DL-CommonInformationPost,
  DL-InformationPerRL,
  DL-InformationPerRL-List,
  DL-InformationPerRL-ListPostFDD,
  DL-InformationPerRL-PostTDD,
  DL-PDSCH-Information,
  DPCH-CompressedModeStatusInfo,
  FrequencyInfo,
  FrequencyInfoFDD,
  FrequencyInfoTDD,
  MaxAllowedUL-TX-Power,
  PDSCH-CapacityAllocationInfo,
  PDSCH-Identity,
  PrimaryCCPCH-TX-Power,
  PUSCH-CapacityAllocationInfo,
  PUSCH-Identity,
  RL-AdditionInformationList,
  RL-RemovalInformationList,
  SpecialBurstScheduling,
  SSDT-Information,
  TFC-ControlDuration,
  TimeslotList,
  TX-DiversityMode,
  UL-ChannelRequirement,
  UL-ChannelRequirementWithCPCH-SetID,
  UL-DPCH-Info,
  UL-DPCH-InfoPostFDD,
  UL-DPCH-InfoPostTDD,
  UL-TimingAdvance,
  UL-TimingAdvanceControl,
-- Measurement IEs :
  AdditionalMeasurementID-List,
  Frequency-Band,
  EventResults,
  InterRAT-TargetCellDescription,
  MeasuredResults,
  MeasuredResultsList,
  MeasuredResultsOnRACH,
  MeasurementCommand,
  MeasurementIdentity,
  MeasurementReportingMode,
  PrimaryCCPCH-RSCP,
  TimeslotListWithISCP,
  TrafficVolumeMeasuredResultsList,
  UE-Positioning-GPS-AssistanceData,
  UE-Positioning-OTDOA-AssistanceData,
-- Other IEs :
  BCCH-ModificationInfo,

```

```

CDMA2000-MessageList,
GSM-MessageList,
InterRAT-ChangeFailureCause,
InterRAT-HO-FailureCause,
InterRAT-UE-RadioAccessCapabilityList,
InterRAT-UE-SecurityCapList,
IntraDomainNasNodeSelector,
ProtocolErrorMoreInformation,
Rplmn-Information,
SegCount,
SegmentIndex,
SFN-Prime,
SIB-Data-fixed,
SIB-Data-variable,
SIB-Type
FROM InformationElements

```

```

maxSIBperMsg
FROM Constant-definitions;

```

<Cut until the next modified section>

```

-- *****
--
-- INTER RAT HANDOVER INFO
--
-- *****

InterRATHandoverInfo ::= SEQUENCE {
octString OCTET STRING (SIZE (0..255))
octet aligned string in which the following information is contained
-- interRATHandoverInfo InterRATHandoverInfo-IEs
-- also including non-critical extensions
-- this structure is defined for historical reasons, backward compatibility with 04.18
}

InterRATHandoverInfo-IEs ::= SEQUENCE {
-- This structure is defined for historical reasons, backward compatibility with 04.18
predefinedConfigStatusList CHOICE {
absent NULL,
present PredefinedConfigStatusList
},
uE-SecurityInformation CHOICE {
absent NULL,
present UE-SecurityInformation
},
ue-CapabilityContainer CHOICE {
absent NULL,
present OCTET STRING (SIZE (0..25563))
-- octet aligned string in which the following information is containing IEed UE-
RadioAccessCapabilityInfo
-- ue-RadioAccessCapability UE-RadioAccessCapability,
ue-RadioAccessCapability-v370ext UE-RadioAccessCapability-v370ext
},
-- Non critical extensions
v390NonCriticalExtensions CHOICE {
absent NULL,
present SEQUENCE {
interRATHandoverInfo-v390ext InterRATHandoverInfo-v390ext-IEs,
-- Reserved for future non critical extension
nonCriticalExtensions SEQUENCE {} OPTIONAL
}
}
}

InterRATHandoverInfo-v390ext-IEs ::= SEQUENCE {
-- User equipment IEs
ue-RadioAccessCapability-v380ext UE-RadioAccessCapability-v380ext OPTIONAL,
dl-PhysChCapabilityFDD-v380-ext DLdl-PhysChCapabilityFDD-v380-ext
}

-- *****
--
-- RRC failure info
--
-- *****

RRC-FailureInfo ::= CHOICE {
r3 SEQUENCE {

```

```

    rRC-FailureInfo-r3                               RRC-FailureInfo-r3-IEs,
    nonCriticalExtensions                             SEQUENCE {} OPTIONAL
  }
  criticalExtensions                                 SEQUENCE {}
}

RRC-FailureInfo-r3-IEs ::= SEQUENCE {
  -- Non-RRC IEs
  failureCauseWithProtErr                           FailureCauseWithProtErr
}

```

11.3 Information element definitions

```
-- *****
--
-- USER EQUIPMENT INFORMATION ELEMENTS (10.3.3)
--
-- *****
```

<Cut to the next modified section>

```
UE-RadioAccessCapability ::= SEQUENCE {
    ics-Version                ICS-Version,
    pdcp-Capability           PDCP-Capability,
    rlc-Capability            RLC-Capability,
    transportChannelCapability TransportChannelCapability,
    rf-Capability             RF-Capability,
    physicalChannelCapability PhysicalChannelCapability,
    ue-MultiModeRAT-Capability UE-MultiModeRAT-Capability,
    securityCapability        SecurityCapability,
    ue-positioning-Capability UE-Positioning-Capability,
    measurementCapability     MeasurementCapability OPTIONAL
}
```

```
UE-RadioAccessCapabilityInfo ::= SEQUENCE {
    ue-RadioAccessCapability UE-RadioAccessCapability,
    ue-RadioAccessCapability-v370ext UE-RadioAccessCapability-v370ext
}
```

```
UE-RadioAccessCapability-v370ext ::= SEQUENCE {
    ue-RadioAccessCapabBandFDDList UE-RadioAccessCapabBandFDDList
}
```

<Cut to the next modified section>

```
UE-SecurityInformation ::= SEQUENCE {
    start-CS                START-Value
}
```

```
-- *****
--
-- RADIO BEARER INFORMATION ELEMENTS (10.3.4)
--
-- *****
```

<Cut to the next modified section>

```
PredefinedConfigIdentity ::= INTEGER (0..15)
```

```
PredefinedConfigValueTag ::= INTEGER (0..15)
```

```
PredefinedRB-Configuration ::= SEQUENCE {
    re-EstablishmentTimer Re-EstablishmentTimer,
    srb-InformationList    SRB-InformationSetupList,
    rb-InformationList     RB-InformationSetupList
}
```

```
PreDefRadioConfiguration ::= SEQUENCE {
    -- Radio bearer IEs
    predefinedRB-Configuration PredefinedRB-Configuration,
    -- Transport channel IEs
    preDefTransChConfiguration PreDefTransChConfiguration,
    -- Physical channel IEs
    preDefPhyChConfiguration PreDefPhyChConfiguration
}
```

```
PredefinedConfigStatusList ::= SEQUENCE (SIZE (maxPredefConfig)) OF
    PredefinedConfigStatusInfo
```

```
PredefinedConfigStatusInfo ::= CHOICE {
    storedWithValueTagSameAsPrevious NULL,
    other CHOICE {
        notStored NULL,
        storedWithDifferentValueTag PredefinedConfigValueTag
    }
}
```

<Cut to the next modified section>

```
UE-SecurityInformation ::= SEQUENCE {
```

start-CS START-Value
±

11.5 RRC information between network nodes

```

Internode-definitions DEFINITIONS AUTOMATIC TAGS ::=
BEGIN

IMPORTS

    HandoverToUTRANCommand,
    MeasurementReport,
    PhysicalChannelReconfiguration,
    RadioBearerReconfiguration,
    RadioBearerRelease,
    RadioBearerSetup,
    TransportChannelReconfiguration
FROM PDU-definitions

-- Core Network IEs :
    CN-DomainIdentity,
    CN-DomainInformationList,
    NAS-SystemInformationGSM-MAP,
-- UTRAN Mobility IEs :
    CellIdentity,
    URA-Identity,
-- User Equipment IEs :
    C-RNTI,
    FailureCauseWithProtErr,
    RRC-MessageSequenceNumber,
    STARTList,
    U-RNTI,
    UE-RadioAccessCapability,
    UE-RadioAccessCapability-v370ext,
-- Radio Bearer IEs :
    PredefinedConfigStatusList,
    PredefinedConfigValueTag,
    RAB-InformationSetupList,
    SRB-InformationSetupList,
-- Transport Channel IEs :
    CPCH-SetID,
    DL-CommonTransChInfo,
    DL-AddReconfTransChInfoList,
    DRAC-StaticInformationList,
    UL-CommonTransChInfo,
    UL-AddReconfTransChInfoList,
-- Measurement IEs :
    MeasurementIdentity,
    MeasurementReportingMode,
    MeasurementType,
    AdditionalMeasurementID-List,
    PositionEstimate,
-- Other IEs :
    InterRAT-UE-RadioAccessCapabilityList
FROM InformationElements

    maxCNdomains,
    maxNoOfMeas,
    maxPredefConfig,
    maxRB,
    maxSRBsetup
FROM Constant-definitions

    UE-SecurityInformation
FROM UEtoOtherRAT-definitions;

-- Part 1: Class definitions similar to what has been defined in 11.1 for RRC messages
-- Information that is tranferred in the same direction and across the same path is grouped
-- *****
--
-- RRC information, to target RNC
--
-- *****
-- RRC Information to target RNC sent either from source RNC or from another RAT

ToTargetRNC-Container ::= CHOICE {

```



```

    interRATHandoverToUTRAN
    srncRelocation
    extension
}
    InterRATHandoverToUTRANInfoWithInterRATCapabilities,
    SRNC-RelocationInfo,
    NULL
}

-- *****
--
-- RRC information, target RNC to source RNC
--
-- *****

TargetRNC-ToSourceRNC-Container ::= CHOICE {
    radioBearerSetup          RadioBearerSetup,
    radioBearerReconfiguration RadioBearerReconfiguration,
    radioBearerRelease        RadioBearerRelease,
    transportChannelReconfiguration TransportChannelReconfiguration,
    physicalChannelReconfiguration PhysicalChannelReconfiguration,
    rrc-InformationContainerFailureInfo RRC-InformationContainerFailureInfo,
    extension                  NULL
}

-----
--
-- RRC information, target RNC to source RAT
--
-- *****

TargetRNC-ToSourceRAT-Container ::= CHOICE SEQUENCE {
    handoverToUTRAN          HandoverToUTRANCommand,
    rrc-InformationContainerFailureInfo RRC-InformationContainerFailureInfo,
    extension                NULL
}

-----
--
-- RRC information, to target system
--
-- *****

-- RRC Information to target RNC sent either from source RNC or
-- from another node within the other RAT


ToTargetRAT-Container ::= SEQUENCE {
    interRATHandover          InterRATHandoverInfo,
}

-- Part2: Container definitions, similar to the PDU definitions in 11.2 for RRC messages
-- In alphabetical order

-- *****
--
-- Handover to UTRAN information
--
-- *****

InterRATHandoverToUTRANInfoWithInterRATCapabilities ::= CHOICE {
    r3 SEQUENCE {
        interRATHandoverToUTRANInfo-r3          InterRATHandoverToUTRANInfoWithInterRATCapabilities-r3-IEs,
        -- IE InterRATHandoverInfoWithInterRATCapabilities-r3-IEs also
        -- includes non critical extensions
        v390NonCriticalExtensions SEQUENCE {
            handoverToUTRANInfo-v380ext          HandoverToUTRANInfo-v380ext-IEs,
            interRATHandoverInfoWithInterRATCapabilities-v390ext
            InterRATHandoverInfoWithInterRATCapabilities-v390ext-IEs,
            -- Reserved for future non critical extension
            nonCriticalExtensions SEQUENCE {} OPTIONAL
        } OPTIONAL
    },
    criticalExtensions SEQUENCE {}
}

InterRATHandoverToUTRANInfoWithInterRATCapabilities-r3-IEs ::= SEQUENCE {
    -- User equipment IES
    ue-RadioAccessCapability          UE-RadioAccessCapability          OPTIONAL,
    ue-SecurityInformation          UE-SecurityInformation          OPTIONAL,
    -- The order of the IE may not reflect the tabular format
}

```

```

-- but has been chose to simplify the handling of the information in the BSC
-- Other IEs
ue-RATSpecificCapability          InterRAT-UE-RadioAccessCapabilityList  OPTIONAL,
interRATHandoverInfo             OCTET STRING (SIZE (0..255))
-- Octet string is used to obtain 8 bit length field prior to actual information
-- This makes it possible for BSS to transparently handle information received via
-- GSM air interface even when it includes non critical extensions
-- The octet string shall include the InterRATHandoverInfo information
-- The BSS can re-use the 04.18 length field received from the MS
Information as received across the other RATs air interface
-- Includes non critical extensions
predefinedConfigStatusList      PredefinedConfigStatusList          OPTIONAL
}

InterRATHandoverForUTRANInfoWithInterRATCapabilities-v380ext-v390ext-IEs ::= SEQUENCE {
-- User equipment IEs
ue-RadioAccessCapability-v370ext  UE-RadioAccessCapability-v370ext          OPTIONAL
failureCauseWithProtErr          FailureCauseWithProtErr          OPTIONAL
}

-----
--
-- RRC information container failure info
--
-----

RRC-InformationContainerFailureInfo ::= CHOICE {
  r3                               SEQUENCE {
    rRC-InformationContainerFailureInfo-r3  RRC-InformationContainerFailureInfo-r3-IEs,
    nonCriticalExtensions                  SEQUENCE {} OPTIONAL
  },
  criticalExtensions                  SEQUENCE {}
}

RRC-InformationContainerFailureInfo-r3-IEs ::= SEQUENCE {
-- Non-RRC IEs
failureCauseWithProtErr              FailureCauseWithProtErr
}

--
--
-- SRNC Relocation information
--
-----

SRNC-RelocationInfo ::= CHOICE {
  r3                               SEQUENCE {
    sRNC-RelocationInfo-r3            SRNC-RelocationInfo-r3-IEs,
    v380NonCriticalExtensions          SEQUENCE {
      sRNC-RelocationInfo-v380ext  SRNC-RelocationInfo-v380ext-IEs,
      -- Reserved for future non critical extension
      nonCriticalExtensions          SEQUENCE {} OPTIONAL
    },
    v390NonCriticalExtensions          SEQUENCE {
      sRNC-RelocationInfo-v390ext  SRNC-RelocationInfo-v390ext-IEs,
      -- Reserved for future non critical extension
      nonCriticalExtensions          SEQUENCE {} OPTIONAL
    }
  } OPTIONAL
},
criticalExtensions                  SEQUENCE {}
}

SRNC-RelocationInfo-r3-IEs ::= SEQUENCE {
-- Non-RRC IEs
stateOfRRC                          StateOfRRC,
stateOfRRC-Procedure                 StateOfRRC-Procedure,
-- Ciphering related information IEs
-- If the extension v380 is included use the extension for the ciphering status per CN domain
cipheringStatus                      CipheringStatus,
calculationTimeForCiphering          CalculationTimeForCiphering          OPTIONAL,
cipheringInfoPerRB-List              CipheringInfoPerRB-List            OPTIONAL,
count-C-List                         COUNT-C-List                        OPTIONAL,
integrityProtectionStatus            IntegrityProtectionStatus,
srb-SpecificIntegrityProtInfo        SRB-SpecificIntegrityProtInfoList,
implementationSpecificParams         ImplementationSpecificParams       OPTIONAL,
-- User equipment IEs
u-RNTI                               U-RNTI,
c-RNTI                               C-RNTI                             OPTIONAL,
}

```

```

        ue-RadioAccessCapability          UE-RadioAccessCapability,
        ue-Positioning-LastKnownPos      UE-Positioning-LastKnownPos      OPTIONAL,
-- Other IES
        ue-RATSpecificCapability          InterRAT-UE-RadioAccessCapabilityList  OPTIONAL,
-- UTRAN mobility IES
        ura-Identity                      URA-Identity                      OPTIONAL,
-- Core network IES
        cn-CommonGSM-MAP-NAS-SysInfo     NAS-SystemInformationGSM-MAP,
        cn-DomainInformationList         CN-DomainInformationList         OPTIONAL,
-- Measurement IES
        ongoingMeasRepList                OngoingMeasRepList              OPTIONAL,
-- Radio bearer IES
        predefinedConfigStatusList        PredefinedConfigStatusList,
        srb-InformationList                SRB-InformationSetupList,
        rab-InformationList                RAB-InformationSetupList        OPTIONAL,
-- Transport channel IES
        ul-CommonTransChInfo             UL-CommonTransChInfo            OPTIONAL,
        ul-TransChInfoList                UL-AddReconfTransChInfoList     OPTIONAL,
        modeSpecificInfo                   CHOICE {
            fdd                             SEQUENCE {
                cpch-SetID                   CPCH-SetID                       OPTIONAL,
                transChDRAC-Info             DRAC-StaticInformationList       OPTIONAL
            },
            tdd                             NULL
        },
        dl-CommonTransChInfo             DL-CommonTransChInfo            OPTIONAL,
        dl-TransChInfoList                DL-AddReconfTransChInfoList     OPTIONAL,
-- Measurement report
        measurementReport                 MeasurementReport                OPTIONAL
    }

SRNC-RelocationInfo-v380ext-IEs ::= SEQUENCE {
    -- Ciphering related information IES
    cn-DomainIdentity                    CN-DomainIdentity,
    cipheringStatusList                  CipheringStatusList
}

SRNC-RelocationInfo-v390ext-IEs ::= SEQUENCE {
User equipment IES
    cn-DomainInformationList-v390ext     CN-DomainInformationList-v390ext  OPTIONAL,
    ue-RadioAccessCapability-v370ext     UE-RadioAccessCapability-v370ext  OPTIONAL,
    ue-RadioAccessCapability-v380ext     UE-RadioAccessCapability-v380ext  OPTIONAL,
    dl-PhysChCapabilityFDD-v380-ext      DLdl-PhysChCapabilityFDD-v380-ext,
    failureCauseWithProtErr             FailureCauseWithProtErr           OPTIONAL
}

CipheringStatusList ::=
    SEQUENCE (SIZE (1..maxCNdomains)) OF
        CipheringStatusCNdomain

CipheringStatusCNdomain ::=
    SEQUENCE {
        cn-DomainIdentity
        cipheringStatus
    }

-- IE definitions

CalculationTimeForCiphering ::=
    SEQUENCE {
        cell-Id                          CellIdentity,
        sfn                                INTEGER (0..4095)
    }

CipheringInfoPerRB ::=
    SEQUENCE {
        dl-HFN                             BIT STRING (SIZE (20..25)),
        ul-HFN                             BIT STRING (SIZE (20..25))
    }

-- TABULAR: Multiplicity value numberOfRadioBearers has been replaced
-- with maxRB.
CipheringInfoPerRB-List ::=
    SEQUENCE (SIZE (1..maxRB)) OF
        CipheringInfoPerRB

CipheringStatus ::=
    ENUMERATED {
        started, notStarted
    }

CN-DomainInformation-v390ext ::=
    SEQUENCE {
        cn-DRX-CycleLengthCoeff          CN-DRX-CycleLengthCoefficient
    }

```

```

CN-DomainInformationList-v390ext ::= SEQUENCE (SIZE (1..maxCNdomains)) OF
-----
CN-DomainInformation-v390ext

COUNT-C-List ::= SEQUENCE (SIZE (1..maxCNdomains)) OF
COUNT-CSingle

COUNT-CSingle ::= SEQUENCE {
  cn-DomainIdentity CN-DomainIdentity,
  count-C BIT STRING (SIZE (32))
}

ImplementationSpecificParams ::= BIT STRING (SIZE (1..512))

IntegrityProtectionStatus ::= ENUMERATED {
  started, notStarted }

MeasurementCommandWithType ::= CHOICE {
  setup MeasurementType,
  modify NULL,
  release NULL
}

OngoingMeasRep ::= SEQUENCE {
  measurementIdentity MeasurementIdentity,
  measurementCommandWithType MeasurementCommandWithType,
  -- TABULAR: The CHOICE Measurement in the tabular description is included
  -- in the IE above.
  measurementReportingMode MeasurementReportingMode OPTIONAL,
  additionalMeasurementID-List AdditionalMeasurementID-List OPTIONAL
}

OngoingMeasRepList ::= SEQUENCE (SIZE (1..maxNoOfMeas)) OF
OngoingMeasRep

PredefinedConfigStatusList ::= SEQUENCE (SIZE (maxPredefConfig)) OF
-----
PredefinedConfigStatusInfo

PredefinedConfigStatusInfo ::= SEQUENCE {
  predefinedConfigValueTag PredefinedConfigValueTag OPTIONAL
  -- Absence of the IE indicates that the UE has not stored the corresponding preconfiguration
}

SRB-SpecificIntegrityProtInfo ::= SEQUENCE {
  ul-RRC-HFN BIT STRING (SIZE (28)),
  dl-RRC-HFN BIT STRING (SIZE (28)),
  ul-RRC-SequenceNumber RRC-MessageSequenceNumber,
  dl-RRC-SequenceNumber RRC-MessageSequenceNumber
}

SRB-SpecificIntegrityProtInfoList ::= SEQUENCE (SIZE (4..maxSRBsetup)) OF
SRB-SpecificIntegrityProtInfo

StateOfRRC ::= ENUMERATED {
  cell-DCH, cell-FACH,
  cell-PCH, ura-PCH }

StateOfRRC-Procedure ::= ENUMERATED {
  awaitNoRRC-Message,
  awaitRRC-ConnectionRe-establishmentComplete,
  awaitRB-SetupComplete,
  awaitRB-ReconfigurationComplete,
  awaitTransportCH-ReconfigurationComplete,
  awaitPhysicalCH-ReconfigurationComplete,
  awaitActiveSetUpdateComplete,
  awaitHandoverComplete,
  sendCellUpdateConfirm,
  sendUraUpdateConfirm,
  sendRrcConnectionReestablishment,
  otherStates
}

UE-Positioning-LastKnownPos ::= SEQUENCE {
  sfn INTEGER (0..4095),
  cell-id CellIdentity,
  positionEstimate PositionEstimate
}

```

END

11.6 RRC information between UE and other RATs

```

UEtoOtherRAT definitions DEFINITIONS AUTOMATIC TAGS ::=
BEGIN

IMPORTS

-- User Equipment IEs :
-- START Value,
-- UE-RadioAccessCapability,
-- UE-RadioAccessCapability-v370ext,
-- DL-PhysChCapabilityFDD-v380ext,
-- Radio Bearer IEs :
-- PredefinedConfigValueTag
FROM InformationElements;

-- Part 1: Class definitions similar to what has been defined in 11.1 for RRC messages
-- Information that is transferred in the same direction and across the same path is grouped
--
-- *****
--
-- RRC information, to target RNC
--
-- *****
-- RRC Information to target RNC sent either from source RNC or from another RAT
--
-- Currently not used
--
-- *****
--
-- RRC information, target RNC to source RNC
--
-- *****
--
-- Currently not used
--
-- *****
--
-- RRC information, target RNC to source RAT
--
-- *****
--
-- Currently not used
--
-- Part 2: Container definitions, similar to the PDU definitions in 11.2 for RRC messages
-- In alphabetical order
--
-- Currently not used
--
-- Part 3: Non-extensible IE definitions
-- In alphabetical order

UE-CapabilityInformation ::= SEQUENCE {
  ue-RadioAccessCapability UE-RadioAccessCapability,
  ue-RadioAccessCapabilityExt1 UE-RadioAccessCapability-v370ext
}

UE-SecurityInformation ::= SEQUENCE {
  start-CS START-Value
}

END

```

13.4.10a INTER RAT HANDOVER INFO TRANSFERRED

This variable stores information about the inter RAT handover info that has been transferred to UTRAN another RAT.

<u>Information Element/Group name</u>	<u>Need</u>	<u>Multi</u>	<u>Type and reference</u>	<u>Semantics description</u>
<u>Pre-defined configuration status information</u>	<u>OP</u>		<u>Pre-defined configuration status information 10.3.4.x</u>	<u>Cleared upon entering connected mode in another RAT</u>
<u>UE security information</u>	<u>OP</u>		<u>UE security information 10.3.3.x</u>	<u>Cleared upon entering connected mode in another RAT</u>
<u>UE radio access capability</u>	<u>OP</u>		<u>UE radio access capability 10.3.3.42</u>	<u>Cleared upon entering connected mode in another RAT</u> <u>Initialised upon entering connected mode in another RAT with the value of the corresponding IE included in UE_CAPABILITY_TRANSFERRED</u>
<u>UE radio access capability extension</u>	<u>OP</u>		<u>UE radio access capability extension 10.3.3.42a</u>	<u>Cleared upon entering connected mode in another RAT</u> <u>Initialised upon entering connected mode in another RAT with the value of the corresponding IE included in UE_CAPABILITY_TRANSFERRED</u>
<u>UE system specific capability</u>	<u>OP</u>	<u>1 to <maxSystemCapability ></u>	<u>Inter-RAT UE radio access capability 10.3.8.7</u>	<u>Cleared upon entering connected mode in another RAT</u> <u>Initialised upon entering connected mode in another RAT with the value of the corresponding IE included in UE_CAPABILITY_TRANSFERRED</u>
<u>>Inter-RAT UE radio access capability</u>	<u>MP</u>		<u>Inter-RAT UE radio access capability 10.3.8.7</u>	

14.12 Provision and reception of RRC information between network nodes

14.12.0 General

In certain cases, e.g., when performing handover to UTRAN or when performing SRNC relocation, RRC information may need to be transferred between UTRAN nodes, between UTRAN and another RATs, between nodes within another RAT and UTRAN or between UTRAN nodes within UTRAN the UE and another RAT. ~~In the following, the details of the RRC information to be transferred are specified per direction.~~

~~In the following~~ The RRC information exchanged between network nodes or between the UE and another RAT is sometimes referred typically transferred by means of to as RRC information containers. An RRC information container is a self contained and extensible RRC information unit that may be used to transfer a number of different RRC messages, one at a time. As stated before, RRC information containers may be used to transfer RRC messages across interfaces other than the Uu interface. The RRC messages that may be included in RRC information containers have similar characteristics as the RRC messages that are transferred across the Uu interface. This term is used for information which handling resembles that of RRC messages rather than of RRC information elements.

The RRC messages that are sent to/ from the UE e.g. HANDOVER TO UTRAN COMMAND, INTER RAT HANDOVER INFO are covered by (sub)clauses 8, 9, 10, 11.0- 11.4 and 12 of this specification. The following sections concern RRC messages exchanged between network nodes.

In future versions of this specification, it is possible to extend the RRC ~~information messages~~ transferred ~~between network nodes~~ across interfaces other than Uu. For ~~these RRC messages~~ information containers the same extension mechanism applies as defined for RRC messages transferred across the Uu interface, ~~which as~~ is specified in subclause 10.1. ~~For RRC information containers specified in the following, i.e. both critical and non-critical extensions may be added.~~

~~Like for the Uu interface,~~ The transfer syntax for RRC information containers and RRC messages transferred between UTRAN network nodes and/or between UTRAN and other RATs is derived from their ASN.1 definitions by use of Packed Encoding Rules, unaligned (X.691). It should be noted that the encoder adds final padding to achieve octet alignment. The resulting octet string is, carried in a container, transferred between the network nodes nodes or between the UE and another RAT.

~~When using~~ By defining a separate RRC information container for each ~~of~~ endpoint, the receiving RRC protocol entity is able to interpret the received container; this means that the receiver need not take into account information about the ~~(network interface) message used in transferring the container. information about the context/ the message use to transfer the container into account.~~

14.12.0a General error handling for RRC information containers ~~messages~~ exchanged between network nodes

~~The handling of RRC messages that are terminated in the UE and transferred using RRC information containers is covered by clauses 8 and 9 of this specification.~~

The error handling for RRC ~~information containers~~ messages that are ~~terminated in~~ exchanged between network nodes applies the same principles as defined for other RRC messages, ~~as specified in the following.~~

Although the same principles apply for network nodes receiving unknown, unforeseen and erroneous RRC messages received in RRC information containers, ~~although~~ the notification of the error should be done in a different manner, as specified in the following:

The network node receiving an invalid RRC ~~information container~~ message from another network node should:

- if the received RRC ~~information container~~ message was unknown, unforeseen or erroneous:
- prepare an RRC ~~INFORMATION CONTAINER FAILURE INFO container~~ message, including the IE "Failure cause" set to "Protocol error" and the IE "Protocol error information" including an IE "Protocol error cause" which should be set as follows:

- to "ASN.1 violation or encoding error" upon receiving an RRC ~~information container~~ message for which the encoded message does not result in any valid abstract syntax value;
 - to "Message type non-existent or not implemented" upon receiving an unknown RRC ~~information container~~ message type;
 - to "Message extension not comprehended" upon receiving an RRC ~~information container~~ message including an undefined critical message extension;
 - to "Information element value not comprehended" upon receiving an RRC ~~information container~~ message including an mandatory IE for which no default value is defined and for which either the value is set to spare or for which the encoded IE does not result in a valid transfer syntax. The same applies for conditional IEs, for which the conditions for presence are met, the IE is present but has a value set to spare or for which the encoded IE does not result in a valid transfer syntax;
 - to "Conditional information element error" upon receiving an RRC information container with an absent conditional IE for which the conditions for presence are met;
- if there was another failure to perform the operation requested by the received RRC ~~information container~~ message:
 - prepare an RRC ~~INFORMATION CONTAINER FAILURE INFO~~ message, including the IE "Failure cause" set to a value that reflects the failure cause;
 - send the RRC ~~INFORMATION CONTAINER FAILURE INFO~~ message to the network node from which the invalid RRC protocol information was received.

NOTE 1: The appropriate (failure) messages used across the network interfaces may not support the inclusion of a RRC information container. In this case, the information contained in the RRC RRC FAILURE INFO message ~~information container~~ may need to be transferred otherwise e.g. by mapping to a cause value (e.g. a cause value in the RR-HANDOVER FAILURE message when there is a error associated with the RR-HANDOVER TO UTRAN COMMAND message) be transferred across the network interfaces by means of a transparent container, if available.

NOTE 2 In case the RRC procedure used to perform SRNS relocation fails e.g. due to non comprehension, the source RNC may notify the target RNC by including the diagnostics information (IEs "Protocol error" and "Protocol error information") in the "RRC message "SRNS Relocation" Info sent in the RRC information container "RRC information container" used for a subsequent relocation request.

14.12.1 RRC Information to target RNC

The RRC information container "RRC Information to target RNC" may either be sent from source RNC or from another RAT. In case of handover to UTRAN, this information originates from another RAT, while in case of SRNC relocation the RRC information originates from the source RNC. In case of handover to UTRAN, the RRC information transferred may provide UTRAN specific information, as defined in the INTER RAT HANDOVER INFO WITH INTER RAT CAPABILITIES message, that the target RNC needs when preparing the handover command message. In case of SRNC ~~information~~ relocation, the RRC information transferred specifies the configuration of RRC and the lower layers it controls, e.g., including the radio bearer and transport channel configuration. It is used by the target RNC to initialise RRC and the lower layer protocols to facilitate SRNC relocation in a manner transparent to the UE.

Information Element/Group Name	Need	Multi	Type and reference	Semantics description
CHOICE case	MP			At least one spare choice, Criticality: Reject, is needed
>Handover to UTRAN			INTER RAT HANDOVER TO UTRAN INFO WITH INTER RAT CAPABILITIES 14.12.4.1	
>SRNC relocation			SRNS RELOCATION INFO 14.12.4.2	

14.12.2 RRC information, target RNC to source RNC

There are 2 possible cases for RNC relocation:

1. The UE is already under control of target RNC; and
2. The SRNC Relocation with Hard Handover (UE still under control of SRNC), but UE is moving to a location controlled by the target RNC (based on measurement information).

In case 1 the relocation is transparent to the UE and there is no "reverse" direction container. The SRNC just assigns the 'serving' function to the target RNC, which then becomes the Serving RNC.

In case 2 the relocation is initiated by SRNC, which also provides the RRC Initialisation Information to the target RNC. Base on this information, the target RNC prepares the Hard Handover Message ("Physical channel reconfiguration" (subclause 8.2.6), "radio bearer establishment" (subclause 8.2.1), "Radio bearer reconfiguration" (subclause 8.2.2), "Radio bearer release" (subclause 8.2.3) or "Transport channel reconfiguration" (subclause 8.2.4).

The source RNC then transmits the Handover Message to the UE, which then performs the handover.

In the successful case, the UE transmits an XXX COMPLETE message, using the new configuration, to the target RNC.

In case of failure, the UE transmits an XXX FAILURE, using the old configuration, to the source RNC and the RRC context remains unchanged (has to be confirmed and checked with the SRNS relocation procedure).

Information Element/Group name	Need	Multi	Type and reference	Semantics description
CHOICE <i>RRC message</i>	MP			At least one spare choice, Criticality: Reject, is needed
>RADIO BEARER SETUP			RADIO BEARER SETUP 10.2.31	
>RADIO BEARER RECONFIGURATION			RADIO BEARER RECONFIGURATION 10.2.25	
>RADIO BEARER RELEASE			RADIO BEARER RELEASE 10.2.28	
>TRANSPORT CHANNEL RECONFIGURATION			TRANSPORT CHANNEL RECONFIGURATION 10.2.51	
>PHYSICAL CHANNEL RECONFIGURATION			PHYSICAL CHANNEL RECONFIGURATION 10.2.20	
>RRC INFORMATION CONTAINER-FAILURE INFO			RRC INFORMATION CONTAINER-FAILURE INFO <u>14.12.4.310.2.41a</u>	

14.12.3 ~~RRC information, target RNC to source system~~

~~The RRC information, target RNC to source system is used to transfer information to another RAT, e.g., in case of handover to UTRAN. In this case, the RRC information concerns the "Handover To UTRAN Command" that is compiled by the target RNC but transferred via another RAT towards the UE, as specified in 8.3.6.~~

Information Element/Group name	Need	Multi	Type and reference	Semantics description
CHOICE case	MP			At least one spare choice, Criticality: Reject, is needed
> handover to UTRAN			HANDOVER TO UTRAN COMMAND 10.2.12	
>RRC INFORMATION CONTAINER-FAILURE INFO			RRC INFORMATION CONTAINER-FAILURE INFO 14.12.4.3	

14.12.3a RRC information, to target system

~~The RRC information, target system is used to transfer information to another RAT, e.g., in case of handover to UTRAN or inter node handover within another RAT. The RRC information may concern the "Inter RAT handover~~

info" may be compiled by the source RNC or another node within the other RAT and forwarded to another (node in the other) RAT.

<u>Information Element/Group name</u>	<u>Need</u>	<u>Multi</u>	<u>Type and reference</u>	<u>Semantics description</u>
<u>Inter RAT handover info</u>			<u>INTER RAT HANDOVER INFO</u> <u>10.x.y</u>	

NOTE — No failure container has been defined for this case; upon failing to handle a received container, the source may inform the target within in a subsequent request.

14.12.4 RRC information containers messages exchanged between network nodes

14.12.4.0 HANDOVER TO UTRAN COMMAND

This RRC **information** message is sent between network nodes to transfer the actual handover command including the details of the radio configuration to be used upon handover to UTRAN as compiled by the target RNC.

Direction: target RNC →source RAT

The message is exactly the same as the HANDOVER TO UTRAN COMMAND defined in 10.2.12

14.12.4.0a INTER RAT HANDOVER INFO

This RRC **information** message is sent between network nodes to transfer information relevant for the target RNC when preparing for handover to UTRAN.

Direction: source RNC/ RAT →target RAT

The message is exactly the same as the INTER RAT HANDOVER INFO defined in 10.x.y

14.12.4.1 INTER RAT HANDOVER TO UTRAN-INFO WITH INTER RAT CAPABILITIES

This RRC **information container message** is sent between network nodes when preparing for an inter RAT handover to UTRAN.

Direction: source RAT →target RNC

Information Element/Group Name	Need	Multi	Type and reference	Semantics description
UE Information elements				
<u>UE security information</u>	OP		<u>UE security information 10.3.3.x</u>	
UE radio access capability	OP		UE radio access capability 10.3.3.42	
UE radio access capability extension	OP		UE radio access capability extension 10.3.3.42a	
Non RRC IEs				
UE system specific capability	OP		UE system specific capability 14.13.2.4	
UE security information	OP		UE security information 14.13.2.2	
Pre-defined configuration status information	OP		Pre-defined configuration status information 14.13.2.3	
Radio Bearer IEs				
Pre-defined configuration status information	OP		Pre-defined configuration status information 10.3.4.x	
Other Information elements				
UE system specific capability	OP	1 to <maxSystemCapability>		
>Inter-RAT UE radio access capability	MP		Inter-RAT UE radio access capability 10.3.8.7	
Failure cause	MPOP		Failure cause 10.3.3.13	Diagnostics information related to an earlier handover to UTRAN request
Protocol error information	CV-ProtErr		Protocol error information 10.3.8.12	

Condition	Explanation
<u>ProtErr</u>	This IE is mandatory present if the IE "Protocol error indicator" is included and has the value "TRUE". Otherwise it is not needed.

NOTE The above table does not need to reflect the order of the information elements in the actual encoded message. The order, that is reflected in the ASN.1, should be chosen in a manner that avoids that network nodes need to perform re- ordering of information elements.

14.12.4.2 SRNS RELOCATION INFO

This RRC ~~information container message~~ is sent between network nodes when preparing for an SRNS relocation.

Direction: source RAT→target RNC

Information Element/Group Name	Need	Multi	Type and reference	Semantics description
Non RRC IEs				
>State of RRC	MP		RRC state indicator, 10.3.3.10	
>State of RRC procedure	MP		Enumerated (await no RRC message, Complete, await RB Setup Complete, await RB Reconfiguration Complete, await RB Release Complete, await Transport CH Reconfiguration Complete, await Physical CH Reconfiguration Complete, await Active Set Update Complete, await Handover Complete, send Cell Update Confirm, send URA Update Confirm, , others)	
Ciphering related information				
>Ciphering status for each CN domain	MP	<1 to maxCNDomains>		
>>CN domain identity	MP		CN domain identity 10.3.1.1	
>>Ciphering status	MP		Enumerated(Not started, Started)	
>Latest configured CN domain	MP		CN domain identity 10.3.1.1	Value contained in the variable of the same name.
>Calculation time for ciphering related information	CV- <i>Ciphering</i>			Time when the ciphering information of the message were calculated, relative to a cell of the target RNC
>>Cell Identity	MP		Cell Identity 10.3.2.2	Identity of one of the cells under the target RNC and included in the active set of the current call
>>SFN	MP		Integer(0..4095)	

Information Element/Group Name	Need	Multi	Type and reference	Semantics description
>COUNT-C list	CV- <i>Ciphering</i>	1 to <maxCNdo mains>		COUNT-C values for radio bearers using transparent mode RLC
>>CN domain identity	MP		CN domain identity 10.3.1.1	
>>COUNT-C	MP		Bit string(32)	
>Ciphering info per radio bearer	OP	1 to <maxRB>		For signalling radio bearers this IE is mandatory.
>>RB identity	MP		RB identity 10.3.4.16	
>>Downlink HFN	MP		Bit string(20..25)	This IE is either RLC AM HFN (20 bits) or RLC UM HFN (25 bits)
>>Uplink HFN	MP		Bit string(20..25)	This IE is either RLC AM HFN (20 bits) or RLC UM HFN (25 bits)
Integrity protection related information				
>Integrity protection status	MP		Enumerated(Not started, Started)	
>Signalling radio bearer specific integrity protection information	CV- <i>IP</i>	4 to <maxSRBs etup>		
>>Uplink RRC HFN	MP		Bit string (28)	
>>Downlink RRC HFN	MP		Bit string (28)	
>>Uplink RRC Message sequence number	MP		Integer (0..15)	
>>Downlink RRC Message sequence number	MP		Integer (0..15)	
>Implementation specific parameters	OP		Bit string (1..512)	
RRC IEs				
UE Information elements				
>U-RNTI	MP		U-RNTI 10.3.3.47	
>C-RNTI	OP		C-RNTI 10.3.3.8	
>UE radio access Capability	MP		UE radio access capability 10.3.3.42	
>UE radio access capability extension	OP		UE radio access capability extension 10.3.3.42a	
>Last known UE position	OP			
>>SFN	MP		Integer (0..4095)	Time when position was estimated
>>Cell ID	MP		Cell identity; 10.3.2.2	Indicates the cell, the SFN is valid for.
>>CHOICE <i>Position estimate</i>	MP			
>>>Ellipsoid Point			Ellipsoid Point; 10.3.8.4a	
>>>Ellipsoid point with uncertainty circle			Ellipsoid point with uncertainty circle 10.3.8.4d	
>>>Ellipsoid point with			Ellipsoid	

Information Element/Group Name	Need	Multi	Type and reference	Semantics description
uncertainty ellipse			point with uncertainty ellipse 10.3.8.4e	
>>>Ellipsoid point with altitude			Ellipsoid point with altitude 10.3.8.4b	
>>>Ellipsoid point with altitude and uncertainty ellipsoid			Ellipsoid point with altitude and uncertainty ellipsoid 10.3.8.4c	
Other Information elements				
>UE system specific capability	OP	1 to <maxSystemCapability>		
>>Inter-RAT UE radio access capability	MP		Inter-RAT UE radio access capability 10.3.8.7	
UTRAN Mobility Information elements				
>URA Identifier	OP		URA identity 10.3.2.6	
CN Information Elements				
>CN common GSM-MAP NAS system information	MP		NAS system information (GSM-MAP) 10.3.1.9	
>CN domain related information	OP	1 to <MaxCNdomains>		CN related information to be provided for each CN domain
>>CN domain identity	MP			
>>CN domain specific GSM-MAP NAS system info	MP		NAS system information (GSM-MAP) 10.3.1.9	
>>CN domain specific DRX cycle length coefficient	MP		CN domain specific DRX cycle length coefficient, 10.3.3.6	
Measurement Related Information elements				
>For each ongoing measurement reporting	OP	1 to <MaxNoOfMeas>		
>>Measurement Identity	MP		Measurement identity 10.3.7.48	
>>Measurement Command	MP		Measurement command 10.3.7.46	
>>Measurement Type	CV-Setup		Measurement type 10.3.7.50	
>>Measurement Reporting Mode	OP		Measurement reporting mode 10.3.7.49	
>>Additional Measurements list	OP		Additional	

Information Element/Group Name	Need	Multi	Type and reference	Semantics description
			measurements list 10.3.7.1	
>>CHOICE <i>Measurement</i>	OP			
>>>Intra-frequency				
>>>>Intra-frequency cell info	OP		Intra-frequency cell info list 10.3.7.33	
>>>>Intra-frequency measurement quantity	OP		Intra-frequency measurement quantity 10.3.7.38	
>>>>Intra-frequency reporting quantity	OP		Intra-frequency reporting quantity 10.3.7.41	
>>>>Reporting cell status	OP		Reporting cell status 10.3.7.61	
>>>>Measurement validity	OP		Measurement validity 10.3.7.51	
>>>>CHOICE <i>report criteria</i>	OP			
>>>>>Intra-frequency measurement reporting criteria			Intra-frequency measurement reporting criteria 10.3.7.39	
>>>>>Periodical reporting			Periodical reporting criteria 10.3.7.53	
>>>>>No reporting			NULL	
>>>Inter-frequency				
>>>>Inter-frequency cell info	OP		Inter-frequency cell info list 10.3.7.13	
>>>>Inter-frequency measurement quantity	OP		Inter-frequency measurement quantity 10.3.7.18	
>>>>Inter-frequency reporting quantity	OP		Inter-frequency reporting quantity 10.3.7.21	
>>>>Reporting cell status	OP		Reporting cell status 10.3.7.61	
>>>>Measurement validity	OP		Measurement validity 10.3.7.51	
>>>>CHOICE <i>report criteria</i>	OP			
>>>>>Inter-frequency measurement reporting criteria			Inter-frequency measurement reporting criteria 10.3.7.19	

Information Element/Group Name	Need	Multi	Type and reference	Semantics description
>>>>Periodical reporting			Periodical reporting criteria 10.3.7.53	
>>>>No reporting			NULL	
>>>Inter-RAT				
>>>>Inter-RAT cell info	OP		Inter-RAT cell info list 10.3.7.23	
>>>>Inter-RAT measurement quantity	OP		Inter-RAT measurement quantity 10.3.7.29	
>>>>Inter-RAT reporting quantity	OP		Inter-RAT reporting quantity 10.3.7.32	
>>>>Reporting cell status	OP		Reporting cell status 10.3.7.61	
>>>>Measurement validity	OP		Measurement validity 10.3.7.51	
>>>>CHOICE <i>report criteria</i>	OP			
>>>>>Inter-RAT measurement reporting criteria			Inter-RAT measurement reporting criteria 10.3.7.30	
>>>>>Periodical reporting			Periodical reporting criteria 10.3.7.53	
>>>>>No reporting			NULL	
>>>Traffic Volume				
>>>>Traffic volume measurement Object	OP		Traffic volume measurement object 10.3.7.70	
>>>>Traffic volume measurement quantity	OP		Traffic volume measurement quantity 10.3.7.71	
>>>>Traffic volume reporting quantity	OP		Traffic volume reporting quantity 10.3.7.74	
>>>>CHOICE <i>report criteria</i>	OP			
>>>>>Traffic volume measurement reporting criteria			Traffic volume measurement reporting criteria 10.3.7.72	
>>>>>Periodical reporting			Periodical reporting criteria 10.3.7.53	
>>>>>No reporting			NULL	
>>>Quality				
>>>>Quality measurement Object	OP		Quality measurement	

Information Element/Group Name	Need	Multi	Type and reference	Semantics description
			t object	
>>>>CHOICE <i>report criteria</i>	OP			
>>>>>Quality measurement reporting criteria			Quality measurement reporting criteria 10.3.7.58	
>>>>>Periodical reporting			Periodical reporting criteria 10.3.7.53	
>>>>>No reporting			NULL	
>>>UE internal				
>>>>UE internal measurement quantity	OP		UE internal measurement quantity 10.3.7.79	
>>>>UE internal reporting quantity	OP		UE internal reporting quantity 10.3.7.82	
>>>>CHOICE <i>report criteria</i>	OP			
>>>>>UE internal measurement reporting criteria			UE internal measurement reporting criteria 10.3.7.80	
>>>>>Periodical reporting			Periodical reporting criteria 10.3.7.53	
>>>>>No reporting			NULL	
>>>UE positioning				
>>>>LCS reporting quantity	OP		LCS reporting quantity 10.3.7.111	
>>>>CHOICE <i>report criteria</i>	OP			
>>>>>LCS reporting criteria			LCS reporting criteria 10.3.7.110	
>>>>>Periodical reporting			Periodical reporting criteria 10.3.7.53	
>>>>>No reporting				
Radio Bearer Information Elements				
>Pre-defined configuration status information	OP		Pre-defined configuration status information 14.13.2.3	
>Signalling RB information list	MP	1 to <maxSRBs etup>		For each signalling radio bearer
>>Signalling RB information	MP		Signalling RB information to setup 10.3.4.24	
>RAB information list	OP	1 to <maxRABs etup>		Information for each RAB

Information Element/Group Name	Need	Multi	Type and reference	Semantics description
>>RAB information	MP		RAB information to setup 10.3.4.10	
Transport Channel 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	
>UL transport channel information list	OP	1 to <MaxTrCH >		
>>UL transport channel information	MP		Added or reconfigured UL TrCH information 10.3.5.2	
>CHOICE mode	OP			
>>FDD				
>>>CPCH set ID	OP		CPCH set ID 10.3.5.5	
>>>Transport channel 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	
>DL transport channel information list	OP	1 to <MaxTrCH >		
>>DL transport channel information	MP		Added or reconfigured DL TrCH information 10.3.5.1	
>Measurement report	OP		MEASUREMENT REPORT 10.2.17	
Other Information elements				
<u>Failure cause</u>	<u>MPOP</u>		<u>Failure cause 10.3.3.13</u>	<u>Diagnostics information related to an earlier SRNC Relocation request (see note 2 in 14.12.0a)</u>
<u>Protocol error information</u>	<u>CV-ProtErr</u>		<u>Protocol error information 10.3.8.12</u>	

Multi Bound	Explanation
MaxNoOfMeas	Maximum number of active measurements, upper limit 16

Condition	Explanation
<i>Setup</i>	The IE is mandatory present when the IE Measurement command has the value "Setup", otherwise the IE is not needed.
<i>Ciphering</i>	The IE is mandatory present when the IE Ciphering Status has the value "started" and the ciphering counters need not be reinitialised, otherwise the IE is not needed.
<i>IP</i>	The IE is mandatory present when the IE Integrity protection status has the value "started" and the integrity protection counters need not be reinitialised, otherwise the IE is not needed.
<i>PDGP</i>	The IE is mandatory present when the PDGP Info IE is present, otherwise the IE is not needed.
<i>ProtErr</i>	This IE is mandatory present if the IE "Protocol error indicator" is included and has the value "TRUE". Otherwise it is not needed.

14.12.4.3 RRC INFORMATION CONTAINER FAILURE INFO

This RRC information container is sent between network nodes to provide information about the cause for failure to perform the requested operation:

— Direction: target RNC → source RNC, source RAT

Information Element/Group Name	Need	Multi	Type and reference	Semantics description
Other Information elements				
Failure cause	MP		Failure cause 40.3.3.13	
Protocol error information	CV-ProtErr		Protocol error information 40.3.8.12	

Condition	Explanation
<i>ProtErr</i>	Presence is mandatory if the IE "Failure cause" has the value "Protocol error"; otherwise the element is not needed in the message.

14.13 RRC information transferred between UE and other systems

14.13.0 General

This subclause specifies RRC information that is exchanged between other systems and the UE. This information is transferred via another RAT in accordance with the specifications applicable for those systems. This subclause specifies the UTRAN RRC information applicable for the different information flows.

NOTE: — Currently RRC information containers, using the RRC protocol extension mechanism, are not used for information transferred between UE and another RAT

Like for the Uu interface, the transfer syntax for RRC transferred between UE and other RATs is derived from their ASN.1 definitions by use of Packed Encoding Rules, unaligned (X.691). It should be noted that the encoder adds final

padding to achieve octet alignment. The resulting octet string is transferred across the other RAT as defined in the specifications applicable for that RAT.

14.13.1 RRC information, another RAT to UE

14.13.1.1 Void

14.13.2 RRC information, UE to another RAT

14.13.2.1 UE capability information

Upon receiving a UE information request from another system, the UE shall indicate the requested capabilities. The UE capability information includes the following RRC information.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
UE information elements				
UE radio access capability	OP		UE radio access capability 10.3.3.42	
UE radio access capability extension	OP		UE radio access capability extension 10.3.3.42a	

14.13.2.2 UE security information

Upon receiving a UE information request from another system, the UE shall indicate the requested security information. The UE security information includes the following RRC information.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
UE information elements				
START-CS	MP		START 10.3.3.38	START values to be used in this CN domain.

14.13.2.3 Pre-defined configuration status information

Another system may provide the UE with one or more pre-defined UTRAN configurations, comprising of radio bearer, transport channel and physical channel parameters. If requested, the UE shall indicate the configurations it has stored. The pre-defined configuration status information should include the following RRC information.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
RB information elements				
Predefined configurations		maxPredef ConfigCount		The list is in order of preconfiguration identity
>Predefined configuration value tag	OP		Predefined configuration value tag 10.3.4.6	The UE shall include the value tag if it has stored the concerned configuration

Multi Bound	Explanation
MaxPredefConfigCount	Maximum number of predefined configurations

14.13.2.4 — Void

CHANGE REQUEST

⌘ **25.331 CR 1088** ⌘ ev **-** ⌘ Current version: **4.2.1** ⌘

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

Proposed change affects: ⌘ (U)SIM ME/UE Radio Access Network Core Network

Title:	⌘ Corrections to RRC information containers		
Source:	⌘ TSG-RAN WG2		
Work item code:	⌘ TEI	Date:	⌘ 01-12-2001
Category:	⌘ A	Release:	⌘ REL-4
	<i>Use <u>one</u> of the following categories:</i> 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.		<i>Use <u>one</u> of the following releases:</i> 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)

Reason for change: ⌘ The changes proposed in this CR concern the following

- Clarification of the requirements concerning the transfer of transparent containers e.g. regarding which IEs the UE shall include when sending the information across another RAT

Furthermore, a number of changes are proposed that facilitate improvement of the specification of other interfaces across which RRC information is transferred by:

- Adding/ improving the support for extension of the RRC information in a manner that is more transparent to the interfaces across which the information is carried
- Aligning the transfer of RRC information as transferred across different interfaces to improve transparency/ simplify the handling in intermediate nodes

For further information, see Tdoc R2-012467

Summary of change: ⌘ A first draft The original revision of this CR introduces the following changes

- "HandoverToUTRANInfo" is renamed to "InterRATHandoverInfo" since the information is also transferred during handover from UTRAN
- A new procedure specification is added for Inter RAT handover info transfer. The procedure also clarifies that the RRC information container failure is not applicable towards the UE since the inter RAT handover info may only include non critical extensions
- Two version are defined of the "InterRATHandoverInfo" message; one with and one without the GSM classmark information. The container version without classmark is used across the GSM air interface (UTRAN classmark change) and the network interface, from RNC to BSS (upon handover from UTRAN). The container with classmark is used from BSC to target RNC (upon handover to UTRAN). The contents of the container is respecified to facilitate extension. This is done in a manner that is backwards compatible with UEs based on the JUN-01 version of the specification. The RRC information

transferred across network interfaces has been modified to avoid excessive transcoding/ handling in the BSS (compatible with what was used across the GSM air interface). The latter change is not fully backwards compatible, although the change has isolated impact

- Clarification is added that RRC information containers may be transferred between UE and another RAT
- Clarification that is added concerning general error handling e.g. regarding the forwarding of diagnostics information in subsequent handover/ relocation requests
- The RRC INFORMATION CONTAINER FAILURE INFO has been moved to ch. 10 since the UE may apply it
- Inclusion of v380 extensions for UE- capability within the HANDOVER TO UTRAN INFO and SRNS RELOCATION INFO container
- The terminology regarding RRC information containers has been modified so that an RRC container is used only for the top level, including different choices. The RRC information that each choice value refers to is called an RRC message (as already the case for the HANDOVER TO UTRAN COMMAND message). Names have been aligned accordingly e.g. RRC INFORMATION CONTAINER FAILURE INFO is changed into RRC FAILURE INFO
- Editorial improvements (e.g. correction of references)

Main changes as compared to the draft version are as follows:

- The option to request partial information has been removed from the procedure on transfer of capability information to align with 04.18 from which this option will also be removed in corresponding CRs <conditional>
- The need of the failure information included in the HANDOVER TO UTRAN INFO and SRNS RELOCATION INFO container has been changed from MP to OP
- For RRC message INTER RAT HANDOVER INFO WITH INTER RAT CAPABILITIES an additional option to include non- critical extensions has been included. It should be noted that the octet string including RRC message INTER RAT HANDOVER INFO includes the non- critical extensions sent by the UE. The additional option concerns the non- critical extensions added by the BSC. Two separate extension options facilitate transparent handling. This construct is possible because a length field precedes the INTER RAT HANDOVER INFO message.
- CN drx cycle length information was missing from the ASN.1 part of SRNS Relocation Info message and has been added (as an extension)
- Some editorial changes (mainly ch. 14)

Changes as compared to the original version of this CR are as follows:

- Clarification has been added concerning the initialisation and handling of variable INTER_RAT_HANDOVER_INFO_TRANSFERRED. The updating of UE_RADIO_CAPABILITIES_TRANSFERRED with information transferred via another RAT has been removed
- Editorial changes to chapter 14
- Editorial correction to ASN.1

Isolated impact

- This CR only affects the inter RAT handover to UTRAN. The CR has isolated impact; only the function to be corrected is affected.
- The CR includes one ASN.1 change. However, this concerns the transfer of classmark information prior to handover. New implementations expect the information outside the container. Lack of this information will only affect performance (later start of measurements on neighbouring UTRA cells)
- The CR includes clarifications that have no impact for implementations that have assumed the behaviour as proposed in this CR

Consequences if not approved:	⌘	The requirements concerning the transfer of RRC information across other interfaces remains ambiguous which may result in interoperability problems when performing inter RAT handover	
Clauses affected:	⌘	8.1.16 (new), 8.1.16.1 (new), 8.1.16.2 (new), 8.1.16.3 (new), 8.3.6.3, 8.3.6.4, 9.2, 9.3b, 9.4, 9.5, 9.6, 9.7, 9.8, 10.2.14a (new), 10.2.41a (new), 10.3.3.42b (new), 10.3.4.5a (new), 11.2, 11.3, 11.5, 11.6, 13.4.10a (new), 14.12.0, 14.12.0a, 14.12.1, 14.12.2, 14.12.3, 14.12.4, 14.12.4.0 (new), 14.12.4.0a (new), 14.12.4.1, 14.12.4.2, 14.12.4.3, 14.13, 14.13.0, 14.13.1, 14.13.1.1, 14.13.2, 14.13.2.1, 14.13.2.2, 14.13.2.3, 14.13.2.4	
Other specs affected:	⌘	<input type="checkbox"/> Other core specifications <input type="checkbox"/> Test specifications <input type="checkbox"/> O&M Specifications	⌘ 25.331 v3.8.0, CR 1087r1
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/3G_Specs/CRs.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.

8.1.16 Inter RAT handover information transfer

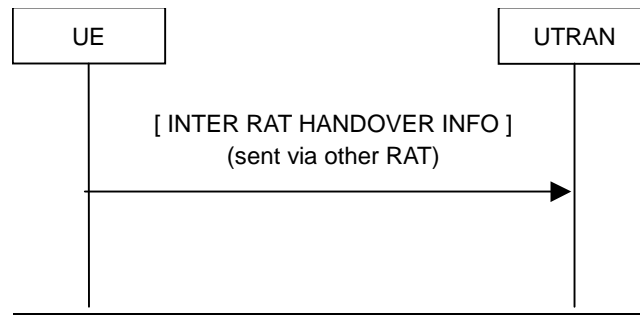


Figure y: Inter RAT handover information transfer, normal flow

8.1.16.1 General

The inter RAT handover information transfer procedure is used by the UE to convey RRC information needed for inter RAT handover to UTRAN.

8.1.16.2 Initiation

The UE shall initiate the inter RAT handover information transfer procedure in the following situations:

- a radio access technology other than UTRA, e.g. GSM, using radio access technology-specific procedures, orders the UE to provide the INTER RAT HANDOVER INFO message;
- a radio access technology other than UTRA, e.g. GSM, using radio access technology-specific procedures, configures the UE to send the INTER RAT HANDOVER INFO message upon system specific conditions not involving an explicit order e.g. early classmark sending upon entering connected mode
- while in connected mode using another radio access technology, the inter RAT handover info changes compared to what has previously been sent via the other radio access technology.

To determine if the inter RAT handover info has changed compared to what has previously been sent, the UE shall store the information last sent in the variable INTER RAT HANDOVER INFO TRANSFERRED. If this variable has not yet been set, the UE shall not initiate the inter RAT handover information transfer procedure due to change of inter RAT handover info. Note Currently neither the UE security information nor the pre-defined configuration status information change while in connected mode using GSM radio access technology.

8.1.16.3 INTER RAT HANDOVER INFO message contents to set

The UE shall:

- include the IE "Pre-defined configuration status information" and the IE "UE security information";
- include the IE "UE radio access capability" and the IE "UE radio access capability extension" in accordance with the following:
 - if the UE supports multiple UTRA FDD Frequency Bands; or
 - if the UE supports a single UTRA FDD Frequency Band different from 2100 MHz:
 - include the IE "UE radio access capability", excluding IEs "RF capability FDD" and "Measurement capability";
 - include the IE "UE radio access capability extension", including the IEs "RF capability FDD extension" and the "Measurement capability extension" associated with each supported UTRA FDD frequency band indicated in the IE "Frequency band";
- else:

- include the IE "UE radio access capability", including the IEs "RF capability FDD" and "Measurement capability" associated with the 2100 MHz UTRA FDD frequency band;
- initiate the transfer of the INTER RAT HANDOVER INFO message via the other radio access technology, using radio access technology-specific procedures;
- store the IE "Pre-defined configuration status information", the IE "UE security information"UTRA, the IE "UE radio access capability" and the IE "UE radio access capability extension", if included in the INTER RAT HANDOVER MESSAGE, in variable INTER_RAT_HANDOVER_INFO_TRANSFERRED
- and the procedure ends.

8.3.6.3 Reception of HANDOVER TO UTRAN COMMAND message by the UE

The UE shall be able to receive a HANDOVER TO UTRAN COMMAND message and perform an inter-RAT handover, even if no prior UE measurements have been performed on the target UTRAN cell and/or frequency.

The UE shall act upon all received information elements as specified in subclause 8.6, unless specified otherwise in the following. The UE shall:

- store a U-RNTI value (32 bits), which is derived by the IEs "SRNC identity" (12 bits) and "S-RNTI 2" (10 bits) included in IE "U-RNTI-short". In order to produce a full size U-RNTI value, a full size "S-RNTI" (20 bits) shall be derived by padding the IE "S-RNTI 2" with 10 zero bits in the most significant positions; and
- initialise the variable ESTABLISHED_SIGNALLING_CONNECTIONS with the signalling connections that remains after the handover according to the specifications of the source RAT;
- initialise the variable UE_CAPABILITIES_TRANSFERRED with the UE capabilities that have been transferred to the network up to the point prior to the handover, if any;
- initialise the variable TIMERS_AND_CONSTANTS to the default values and start to use those timer and constants values;
- if IE "Specification mode" is set to "Preconfiguration" and IE "Preconfiguration mode" is set to "Predefined configuration":
 - initiate the radio bearer and transport channel configuration in accordance with the predefined parameters identified by the IE "Predefined configuration identity";
 - initiate the physical channels in accordance with the predefined parameters identified by the IE "Predefined radio configuration identity" and the received physical channel information elements;
 - store information about the established radio access bearers and radio bearers according to the IE "Predefined configuration identity"; and
 - set the IE "RAB Info Post" in the variable ESTABLISHED_RABS and the IE "Re-establishment timer" in the IE "RAB Info" in the variable ESTABLISHED_RABS to "useT314";
- if IE "Specification mode" is set to "Preconfiguration" and IE "Preconfiguration mode" is set to "Default configuration":
 - initiate the radio bearer and transport channel configuration in accordance with the default parameters identified by the IE "Default configuration mode" and IE "Default configuration identity";
 - initiate the physical channels in accordance with the default parameters identified by the IE "Default configuration mode" and IE "Default configuration identity" and the received physical channel information elements;

NOTE IE "Default configuration mode" specifies whether the FDD or TDD version of the default configuration shall be used

- set the IE "RAB Info Post" in the variable ESTABLISHED_RABS and the IE "Re-establishment timer" in the IE "RAB Info" in the variable ESTABLISHED_RABS to "useT314";
- if IE "Specification mode" is set to "Preconfiguration":
 - use the following values for parameters that are neither signalled within the HANDOVER TO UTRAN ~~COMPLETE~~ COMMAND message nor included within pre-defined or default configuration:
 - 0 dB for the power offset $P_{\text{Pilot-DPDCH}}$ bearer in FDD;
 - calculate the Default DPCH Offset Value using the following formula:
 - in FDD:
$$\text{Default DPCH Offset Value} = (\text{SRNTI 2 mod } 600) * 512$$
 - in TDD:

Default DPCH Offset Value = (SRNTI 2 mod 7)

- handle the above Default DPCH Offset Value as if an IE with that value was included in the message, as specified in subclause 8.6.6.21;
- if IE "Specification mode" is set to "Complete specification":
 - initiate the radio bearer, transport channel and physical channel configuration in accordance with the received radio bearer, transport channel and physical channel information elements;
- perform an open loop estimation to determine the UL transmission power according to subclause 8.5.3;
- if ciphering has been activated and ongoing in the radio access technology from which inter- RAT handover is performed:
 - for the CN domain as in the IE "CN domain identity" which is included in the IE "RAB info" of the IE "RAB information to setup":
 - set the HFN component of the COUNT-C variable for all UL and DL radio bearers and all UL and DL signalling radio bearers that use RLC-AM and RLC-UM to the START value as stored in the USIM for that CN domain; and
 - set the remaining LSBs of the HFN component of COUNT-C to zero;
 - set the HFN component of the COUNT-C variable for all UL and DL radio bearers and all UL and DL signalling radio bearers that use the transparent mode of RLC to zero, while not incrementing the value of the HFN component of the COUNT-C variable at each CFN cycle; and
 - set the CFN component of the COUNT-C variable to the value of the CFN as calculated in subclause 8.5.15;
 - set the IE "Status" in the variable CIPHERING_STATUS to "Started";
 - apply the same ciphering (ciphered/unciphered, algorithm) as prior to inter-RAT handover, unless a change of algorithm is requested by means of the IE "Ciphering algorithm";
 - apply ciphering immediately upon reception of the HANDOVER TO UTRAN COMMAND;

If the UE succeeds in establishing the connection to UTRAN, it shall:

- if the IE "Status" in the variable CIPHERING_STATUS of a CN domain is set to "Started" and transparent mode radio bearers have been established by this procedure for that CN domain:
 - include the IE "COUNT-C activation time" in the response message and specify a CFN value other than the default, "Now" for this IE;
 - at the CFN value as indicated in the response message in the IE "COUNT-C activation time":
 - set the HFN component of the COUNT-C variable to the START value as indicated in the IE "START list" of the response message for the relevant CN domain; and
 - set the remaining LSBs of the HFN component of COUNT-C to zero;
 - increment the HFN component of the COUNT-C variable by one;
 - set the CFN component of the COUNT-C to the value of the IE "COUNT-C activation time" of the response message. The HFN component and the CFN component completely initialise the COUNT-C variable;
 - step the COUNT-C variable, as normal, at each CFN value. The HFN component is no longer fixed in value but incremented at each CFN cycle;
- transmit a HANDOVER TO UTRAN COMPLETE message on the uplink DCCH, using the new ciphering configuration, only if ciphering has been started;
- when the HANDOVER TO UTRAN COMPLETE message has been submitted to lower layers for transmission:

- initialise variables upon entering UTRA RRC connected mode as specified in subclause 13.4;
- and the procedure ends.

8.3.6.4 Invalid Handover to UTRAN command message

If the UE receives a HANOVER TO UTRAN COMMAND message, which contains a protocol error causing the variable PROTOCOL_ERROR_REJECT to be set to TRUE according to clause 9, the UE shall perform procedure specific error handling according to the source radio access technology. The UE shall:

- if allowed by the source RAT:
 - transmit an RRC ~~STATUS FAILURE INFO~~ message to the source radio access technology; and
 - include the IE "Protocol error information" with contents set to the value of the variable PROTOCOL_ERROR_INFORMATION;
- Other details may be provided in the specifications related to the source radio access technology.

Note The other RAT may include the above diagnostics information in a subsequent handover request towards the same RNC.

9.2 ASN.1 violation or encoding error

If the UE receives an RRC message on the DCCH for which the encoded message does not result in any valid abstract syntax value [49] (or "encoding error"), it shall perform the following. The UE shall:

- set the variable `PROTOCOL_ERROR_REJECT` to TRUE;
- transmit an RRC STATUS message on the uplink DCCH. The IE "Protocol error information" shall contain an IE "Protocol error cause" set to "ASN.1 violation or encoding error";
- when RRC STATUS message has been submitted to lower layers for transmission:
 - continue with any ongoing processes and procedures as if the invalid message had not been received.

If the UE receives an RRC message sent ~~to the UE in an RRC information container~~ via a radio access technology other than UTRAN, for which the encoded message does not result in any valid abstract syntax, the UE shall:

- set the variable `PROTOCOL_ERROR_REJECT` to TRUE;
- set the IE "Protocol error cause" in the variable `PROTOCOL_ERROR_INFORMATION` to "ASN.1 violation or encoding error";
- perform procedure specific error handling according to clause 8.

If a reassembled set of system information segments received in messages on the BCCH does not result in any valid abstract syntax value, the UE shall:

- ignore the reassembled set of system information segments;
- treat the rest of each message containing the ignored system information segments as if those segments were not present.

If the UE receives an RRC message on the BCCH, PCCH, CCCH or SHCCH for which the encoded message does not result in any valid abstract syntax value, it shall ignore the message.

9.3 Unknown or unforeseen message type

If a UE receives an RRC message on the DCCH with a message type not defined for the DCCH it shall:

- set the variable `PROTOCOL_ERROR_REJECT` to TRUE;
- transmit an RRC STATUS message on the uplink DCCH. The IE "Protocol error information" shall contain an IE "Protocol error cause" set to "Message type non-existent or not implemented";
- when the RRC STATUS message has been submitted to lower layers for transmission:
 - continue with any ongoing processes and procedures as if the invalid message had not been received.

If the UE receives an RRC message on the BCCH, PCCH, CCCH or SHCCH with a message type not defined for the logical channel type the message was received on, it shall ignore the message.

9.3a Unsolicited received message

If the UE receives any of the following messages:

- an RRC CONNECTION SETUP message addressed to the UE on the CCCH; or
- an RRC CONNECTION REJECT message addressed to the UE on the CCCH; or
- a UE CAPABILITY INFORMATION CONFIRM message on the DCCH; or
- a CELL UPDATE CONFIRM message addressed to the UE on the CCCH or on the DCCH; or

- a URA UPDATE CONFIRM message addressed to the UE on the CCCH or on the DCCH

and no procedure is ongoing according to clause 8 which expects the message to be received:

the UE shall:

- ignore the received message.

9.3b Unexpected critical message extension

If the UE receives an RRC message on the DCCH, or addressed to the UE on the CCCH or on the SHCCH, or sent to the UE in an RRC information container via a radio access technology other than UTRAN, containing an undefined critical message extension, the UE shall:

- set the variable `PROTOCOL_ERROR_REJECT` to TRUE;
- set the IE "Protocol error cause" in the variable `PROTOCOL_ERROR_INFORMATION` to "Message extension not comprehended";
- if the IE "Message Type" of the received message is not present in the table "Rejected transactions" in the variable `TRANSACTIONS`:
 - store the IE "Message type" of the received message in the table "Rejected transactions" in the variable `TRANSACTIONS`; and
 - set the IE "RRC transaction identifier" to zero in that table entry;
- perform procedure specific error handling according to clause 8.

If the UE receives an RRC message on the BCCH or PCCH, containing an undefined critical message extension, the UE shall:

- ignore the message.

9.4 Unknown or unforeseen information element value, mandatory information element

If the UE receives an RRC message on the DCCH, or addressed to the UE on the CCCH or on the SHCCH, or sent to the UE in an RRC information container via a radio access technology other than UTRAN, with a mandatory IE having a value, including choice, reserved for future extension (spare), a value not used in this version of the specification or when the encoded IE does not result in any valid abstract syntax value [49] for this IE, the UE shall:

- if a default value of the IE is defined:
 - treat the rest of the message using the default value of the IE;
- if no default value of the IE is defined:
 - set the variable `PROTOCOL_ERROR_REJECT` to TRUE;
 - set the IE "Protocol error cause" in the variable `PROTOCOL_ERROR_INFORMATION` to "Information element value not comprehended";
 - perform procedure specific error handling according to clause 8.

If the UE receives a system information block on the BCCH with a mandatory IE having a value reserved for future extension (spare), a value not used in this version of the specification or when the encoded IE does not result in any valid abstract syntax value for this IE, the UE shall:

- if a default value of the IE is defined:
 - treat the rest of the system information block using the default value of the IE;
- if no default value of the IE is defined:

- ignore the system information block.

If the UE receives an RRC message on the BCCH or PCCH with a mandatory IE having a value reserved for future extension (spare), a value not used in this version of the specification or when the encoded IE does not result in any valid abstract syntax value for this IE, it shall

- if a default value of the IE is defined:
 - treat the rest of the message using the default value of the IE.
- if no default value of the IE is defined:
 - ignore the message.

9.5 Conditional information element error

If the UE receives an RRC message on the DCCH, BCCH, PCCH, or addressed to the UE on the CCCH or on the SHCCH, or sent to the UE in an RRC information container via a radio access technology other than UTRAN, for which the specified conditions for absence of a conditional IE are met and that IE is present, the UE shall:

- ignore the IE;
- treat the rest of the message as if the IE was not present.

If the UE receives an RRC message on the DCCH, or addressed to the UE on the CCCH or on the SHCCH, or sent to the UE via a radio access technology other than UTRAN, for which the specified conditions for presence of a conditional IE are met and that IE is absent, the UE shall:

- set the variable `PROTOCOL_ERROR_REJECT` to `TRUE`;
- set the IE "Protocol error cause" in the variable `PROTOCOL_ERROR_INFORMATION` to "Conditional information element error";
- perform procedure specific error handling according to clause 8.

If the UE receives a system information block on the BCCH for which the specified conditions for presence of a conditional IE are met and that IE is absent, the UE shall:

- ignore the system information block.

If the UE receives an RRC message on the BCCH or PCCH for which the specified conditions for presence of a conditional IE are met and that IE is absent, the UE shall:

- ignore the message.

9.6 Unknown or unforeseen information element value, conditional information element

If the UE receives an RRC message on the DCCH, or addressed to the UE on the CCCH or on the SHCCH, or sent to the UE in an RRC information container via a radio access technology other than UTRAN, for which the specified conditions for presence of a conditional IE are met, that IE is present, and that IE has a value, including choice, reserved for future extension (spare), a value not used in this version of the specification or when the encoded IE does not result in any valid abstract syntax value [49] for this IE, the UE shall:

- if a default value of the IE is defined:
 - treat the rest of the message using the default value of the IE;
- if no default value of the IE is defined:
 - set the variable `PROTOCOL_ERROR_REJECT` to `TRUE`;

- set the IE "Protocol error cause" in the variable PROTOCOL_ERROR_INFORMATION to "Information element value not comprehended";
- perform procedure specific error handling according to clause 8.

If the UE receives a system information block on the BCCH for which the specified conditions for presence of a conditional IE are met, that IE is present, and that IE has a value, including choice, reserved for future extension (spare), a value not used in this version of the specification or when the encoded IE does not result in any valid abstract syntax value for this IE, the UE shall:

- if a default value of the IE is defined:
 - treat the rest of the system information block using the default value of the IE;
- if no default value of the IE is defined:
 - ignore the system information block.

If the UE receives an RRC message on the BCCH or PCCH for which the specified conditions for presence of a conditional IE are met, that IE is present, and that IE has a value, including choice, reserved for future extension (spare), a value not used in this version of the specification or when the encoded IE does not result in any valid abstract syntax value for this IE, the UE shall:

- if a default value of the IE is defined:
 - treat the rest of the message using the default value of the IE;
- if no default value of the IE is defined:
 - ignore the message.

9.7 Unknown or unforeseen information element value, optional information element

If the UE receives an RRC message on the DCCH, or addressed to the UE on the CCCH or on the SHCCH, or sent to the UE in an RRC information container via a radio access technology other than UTRAN, with an optional IE having a value, including choice, reserved for future extension (spare), a value not used in this version of the specification or when the encoded IE does not result in any valid abstract syntax value [49] for this IE, it shall:

- ignore the value of the IE;
- treat the rest of the message as if the IE was not present.

If the UE receives a system information block on the BCCH with an optional IE having a value, including choice, reserved for future extension (spare), a value not used in this version of the specification or when the encoded IE does not result in any valid abstract syntax value for this IE, it shall:

- ignore the value of the IE;
- treat the rest of the system information block as if the IE was not present.

If the UE receives an RRC message on the BCCH or PCCH with an optional IE having a value, including choice, reserved for future extension (spare), a value not used in this version of the specification or when the encoded IE does not result in any valid abstract syntax value for this IE, it shall:

- ignore the value of the IE;
- treat the rest of the message as if the IE was not present.

9.8 Unexpected non-critical message extension

If the UE receives an RRC message on the DCCH, or addressed to the UE on the CCCH or on the SHCCH, or sent to the UE in an RRC information container via a radio access technology other than UTRAN, containing an undefined non-critical message extension, the UE shall:

- ignore the content of the extension and the message contents after the extension, but treat the parts of the message up to the extension normally.

If the UE receives a system information block on the BCCH containing an undefined non-critical message extension, the UE shall:

- ignore the content of the extension and the system information block contents after the extension, but treat the parts of the system information block up to the extension normally.

If the UE receives an RRC message on the BCCH or PCCH, containing an undefined non-critical message extension, the UE shall:

- ignore the content of the extension and the message contents after the extension, but treat the parts of the message up to the extension normally.

10.2.41a RRC FAILURE INFO

This message is sent by the UE via another radio access technology to provide information about the cause for failure to perform the requested operation.

RLC-SAP: N/A (Sent through a different RAT)

Logical channel: N/A (Sent through a different RAT)

Direction: UE → UTRAN

<u>Information Element/Group Name</u>	<u>Need</u>	<u>Multi</u>	<u>Type and reference</u>	<u>Semantics description</u>
<u>Other Information elements</u>				
<u>Failure cause</u>	<u>MP</u>		<u>Failure cause</u> 10.3.3.13	
<u>Protocol error information</u>	<u>CV-ProtErr</u>		<u>Protocol error information</u> 10.3.8.12	

<u>Condition</u>	<u>Explanation</u>
<u>ProtErr</u>	Presence is mandatory if the IE "Failure cause" has the value "Protocol error"; otherwise the element is not needed in the message.

10.2.14a INTER RAT HANDOVER INFO

This message is sent by the UE via another radio access technology to provide information to the target RNC when preparing for a handover to UTRAN.

RLC-SAP: N/A (Sent through a different RAT)

Logical channel: N/A (Sent through a different RAT)

Direction: UE → UTRAN

Information Element/Group Name	Need	Multi	Type and reference	Semantics description
Radio Bearer IEs				
<u>Pre-defined configuration status information</u>	<u>OP</u>		<u>Pre-defined configuration status information 10.3.4.x</u>	
UE Information elements				
<u>UE security information</u>	<u>OP</u>		<u>UE security information 10.3.3.x</u>	
<u>UE radio access capability</u>	<u>OP</u>		<u>UE radio access capability 10.3.3.42</u>	
<u>UE radio access capability extension</u>	<u>OP</u>		<u>UE radio access capability extension 10.3.3.42a</u>	

10.3.3.42b UE security information

Upon receiving a UE information request from another system, the UE shall indicate the requested security information. The UE security information includes the following RRC information.

<u>Information Element/Group name</u>	<u>Need</u>	<u>Multi</u>	<u>Type and reference</u>	<u>Semantics description</u>
UE information elements				
START-CS	MP		START 10.3.3.38	START values to be used in this CN domain.

10.3.4.5a Pre-defined configuration status information

Another system may provide the UE with one or more pre- defined UTRAN configurations, comprising of radio bearer, transport channel and physical channel parameters. If requested, the UE shall indicate the configurations it has stored. The pre-defined configuration status information should include the following RRC information.

<u>Information Element/Group name</u>	<u>Need</u>	<u>Multi</u>	<u>Type and reference</u>	<u>Semantics description</u>
RB information elements				
Predefined configurations		maxPredef ConfigCou nt		The list is in order of preconfiguration identity
>Predefined configuration value tag	OP		Predefined configuration value tag 10.3.4.6	The UE shall include the value tag if it has stored the concerned configuration

<u>Multi Bound</u>	<u>Explanation</u>
MaxPredefConfigCount	Maximum number of predefined configurations

11.2 PDU definitions

```

--*****
--
-- TABULAR: The message type and integrity check info are not
-- visible in this module as they are defined in the class module.
-- Also, all FDD/TDD specific choices have the FDD option first
-- and TDD second, just for consistency.
--
--*****

PDU-definitions DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

--*****
--
-- IE parameter types from other modules
--
--*****

IMPORTS

-- Core Network IEs :
  CN-DomainIdentity,
  CN-InformationInfo,
  CN-InformationInfoFull,
  NAS-Message,
  PagingRecordTypeID,
-- UTRAN Mobility IEs :
  URA-Identity,
-- User Equipment IEs :
  ActivationTime,
  C-RNTI,
  CapabilityUpdateRequirement,
  CapabilityUpdateRequirement-r4,
  CapabilityUpdateRequirement-r4-ext,
  CellUpdateCause,
  CipheringAlgorithm,
  CipheringModeInfo,
  EstablishmentCause,
  FailureCauseWithProtErr,
  FailureCauseWithProtErrTrId,
  InitialUE-Identity,
  IntegrityProtActivationInfo,
  IntegrityProtectionModeInfo,
  N-308,
  PagingCause,
  PagingRecordList,
  ProtocolErrorIndicator,
  ProtocolErrorIndicatorWithMoreInfo,
  Rb-timer-indicator,
  RedirectionInfo,
  RejectionCause,
  ReleaseCause,
  RRC-StateIndicator,
  RRC-TransactionIdentifier,
  SecurityCapability,
  START-Value,
  STARTList,
  U-RNTI,
  U-RNTI-Short,
  UE-RadioAccessCapability,
  UE-RadioAccessCapability-r4-ext,
  UE-RadioAccessCapability-v370ext,
  UE-RadioAccessCapability-v380ext,
  DL-PhysChCapabilityFDD-v380ext,
  UE-ConnTimersAndConstants,
  URA-UpdateCause,
  UTRAN-DRX-CycleLengthCoefficient,
  WaitTime,
-- Radio Bearer IEs :
  DefaultConfigIdentity,
  DefaultConfigMode,
  DL-CounterSynchronisationInfo,
  PredefinedConfigIdentity,

```



```

| PredefinedConfigStatusList,
  RAB-Info,
  RAB-Info-Post,
  RAB-InformationList,
  RAB-InformationReconfigList,
  RAB-InformationSetupList,
  RAB-InformationSetupList-r4,
  RB-ActivationTimeInfoList,
  RB-COUNT-C-InformationList,
  RB-COUNT-C-MSB-InformationList,
  RB-IdentityList,
  RB-InformationAffectedList,
  RB-InformationReconfigList,
  RB-InformationReconfigList-r4,
  RB-InformationReleaseList,
  RB-WithPDCP-InfoList, SRB-InformationSetupList,
  SRB-InformationSetupList2,
  UL-CounterSynchronisationInfo,
-- Transport Channel IEs:
  CPCH-SetID,
  DL-AddReconfTransChInfo2List,
  DL-AddReconfTransChInfoList,
  DL-CommonTransChInfo,
  DL-CommonTransChInfo-r4,
  DL-DeletedTransChInfoList,
  DRAC-StaticInformationList,
  TFC-Subset,
  TFCS-Identity,
  UL-AddReconfTransChInfoList,
  UL-CommonTransChInfo,
  UL-DeletedTransChInfoList,
-- Physical Channel IEs :
  Alpha,
  CTrCH-PowerControlInfo,
  CTrCH-PowerControlInfo-r4,
  ConstantValue,
  CPCH-SetInfo,
  DL-CommonInformation,
  DL-CommonInformation-r4,
  DL-CommonInformationPost,
  DL-InformationPerRL,
  DL-InformationPerRL-List,
  DL-InformationPerRL-List-r4,
  DL-InformationPerRL-ListPostFDD,
  DL-InformationPerRL-PostTDD,
  DL-InformationPerRL-PostTDD-LCR-r4,
  DL-PDSCH-Information,
  DPCH-CompressedModeStatusInfo,
  FrequencyInfo,
  FrequencyInfoFDD,
  FrequencyInfoTDD,
  MaxAllowedUL-TX-Power,
  OpenLoopPowerControl-IPDL-TDD-r4,
  PDSCH-CapacityAllocationInfo,
  PDSCH-CapacityAllocationInfo-r4,
  PDSCH-Identity,
  PrimaryCCPCH-TX-Power,
  PUSCH-CapacityAllocationInfo,
  PUSCH-CapacityAllocationInfo-r4,
  PUSCH-Identity,
  RL-AdditionInformationList,
  RL-RemovalInformationList,
  SpecialBurstScheduling,
  SSdT-Information,
  TFC-ControlDuration,
  SSdT-UL-r4,
  TimeslotList,
  TimeslotList-r4,
  TX-DiversityMode,
  UL-ChannelRequirement,
  UL-ChannelRequirement-r4,
  UL-ChannelRequirementWithCPCH-SetID,
  UL-ChannelRequirementWithCPCH-SetID-r4,
  UL-DPCH-Info,
  UL-DPCH-Info-r4,
  UL-DPCH-InfoPostFDD,
  UL-DPCH-InfoPostTDD,
  UL-DPCH-InfoPostTDD-LCR-r4,

```

```

    UL-SynchronisationParameters-r4,
    UL-TimingAdvance,
    UL-TimingAdvanceControl,
    UL-TimingAdvanceControl-r4,
-- Measurement IEs :
    AdditionalMeasurementID-List,
    Frequency-Band,
    EventResults,
    InterFreqEventResults-LCR-r4-ext,
    InterRAT-TargetCellDescription,
    MeasuredResults,
    MeasuredResultsList,
    MeasuredResultsList-LCR-r4-ext,
    MeasuredResultsOnRACH,
    MeasurementCommand,
    MeasurementCommand-r4,
    MeasurementIdentity,
    MeasurementReportingMode,
    PrimaryCCPCH-RSCP,
    TimeslotListWithISCP,
    TrafficVolumeMeasuredResultsList,
    UE-Positioning-GPS-AssistanceData,
    UE-Positioning-OTDOA-AssistanceData,
    UE-Positioning-OTDOA-AssistanceData-r4ext,
    UE-Positioning-IPDL-Parameters-TDD-r4-ext,
-- Other IEs :
    BCCH-ModificationInfo,
    CDMA2000-MessageList,
    GSM-MessageList,
    InterRAT-ChangeFailureCause,
    InterRAT-HO-FailureCause,
    InterRAT-UE-RadioAccessCapabilityList,
    InterRAT-UE-SecurityCapList,
    IntraDomainNasNodeSelector,
    ProtocolErrorMoreInformation,
    Rplmn-Information,
    Rplmn-Information-r4,
    SegCount,
    SegmentIndex,
    SFN-Prime,
    SIB-Data-fixed,
    SIB-Data-variable,
    SIB-Type
FROM InformationElements

    maxSIBperMsg
FROM Constant-definitions;

<Cut until the next modified section>

-- *****
--
-- INTER RAT HANDOVER INFO
--
-- *****

InterRATHandoverInfo ::= SEQUENCE {
    -- This structure is defined for historical reasons, backward compatibility with 04.18
    predefinedConfigStatusList CHOICE {
        absent NULL,
        present PredefinedConfigStatusList
    },
    uE-SecurityInformation CHOICE {
        absent NULL,
        present UE-SecurityInformation
    },
    ue-CapabilityContainer CHOICE {
        absent NULL,
        present OCTET STRING (SIZE (0..63))
        -- octet aligned string containing IE UE-RadioAccessCapabilityInfo
    },
    -- Non critical extensions
    v390NonCriticalExtensions CHOICE {
        absent NULL,
        present SEQUENCE {
            interRATHandoverInfo-v390ext InterRATHandoverInfo-v390ext-IEs,
            -- Reserved for future non critical extension
            nonCriticalExtensions SEQUENCE {} OPTIONAL
        }
    }
}

```

```

}
}
InterRATHandoverInfo-v390ext-IEs ::= SEQUENCE {
  -- User equipment IEs
  ue-RadioAccessCapability-v380ext    UE-RadioAccessCapability-v380ext    OPTIONAL,
  dl-PhysChCapabilityFDD-v380-ext     DL-PhysChCapabilityFDD-v380-ext
}
-- *****
--
-- RRC failure info
--
-- *****

RRC-FailureInfo ::= CHOICE {
  r3                               SEQUENCE {
    rRC-FailureInfo-r3             RRC-FailureInfo-r3-IEs,
    nonCriticalExtensions          SEQUENCE {} OPTIONAL
  },
  criticalExtensions              SEQUENCE {}
}

RRC-FailureInfo-r3-IEs ::= SEQUENCE {
  -- Non-RRC IEs
  failureCauseWithProtErr         FailureCauseWithProtErr
}

```

11.3 Information element definitions

```

-- *****
--
--     USER EQUIPMENT INFORMATION ELEMENTS (10.3.3)
--
-- *****

<Cut to the next modified section>

UE-RadioAccessCapability ::=          SEQUENCE {
    ics-Version                ICS-Version,
    pdcp-Capability           PDCP-Capability,
    rlc-Capability            RLC-Capability,
    transportChannelCapability TransportChannelCapability,
    rf-Capability             RF-Capability,
    physicalChannelCapability PhysicalChannelCapability,
    ue-MultiModeRAT-Capability UE-MultiModeRAT-Capability,
    securityCapability        SecurityCapability,
    ue-positioning-Capability  UE-Positioning-Capability,
    measurementCapability     MeasurementCapability     OPTIONAL
}

UE-RadioAccessCapabilityInfo ::=      SEQUENCE {
    ue-RadioAccessCapability      UE-RadioAccessCapability,
    ue-RadioAccessCapability-v370ext UE-RadioAccessCapability-v370ext
}

UE-RadioAccessCapability-v370ext ::=  SEQUENCE {
    ue-RadioAccessCapabBandFDDList UE-RadioAccessCapabBandFDDList
}

UE-RadioAccessCapability-v380ext ::=  SEQUENCE {
    ue-PositioningCapabilityExt     UE-PositioningCapabilityExt
}

<Cut to the next modified section>

UE-SecurityInformation ::=           SEQUENCE {
    start-CS                        START-Value
}

-- *****
--
--     RADIO BEARER INFORMATION ELEMENTS (10.3.4)
--
-- *****

<Cut to the next modified section>

PredefinedConfigIdentity ::=         INTEGER (0..15)

PredefinedConfigValueTag ::=         INTEGER (0..15)

PredefinedRB-Configuration ::=       SEQUENCE {
    re-EstablishmentTimer           Re-EstablishmentTimer,
    srb-InformationList              SRB-InformationSetupList,
    rb-InformationList               RB-InformationSetupList
}

PreDefRadioConfiguration ::=         SEQUENCE {
    -- Radio bearer IEs
    predefinedRB-Configuration       PredefinedRB-Configuration,
    -- Transport channel IEs
    preDefTransChConfiguration      PreDefTransChConfiguration,
    -- Physical channel IEs
    preDefPhyChConfiguration        PreDefPhyChConfiguration
}

PredefinedConfigStatusList ::=       SEQUENCE (SIZE (maxPredefConfig)) OF
    PredefinedConfigStatusInfo

PredefinedConfigStatusInfo ::=       CHOICE {
    storedWithValueTagSameAsPrevious NULL,
    other                             CHOICE {

```

```

    notStored NULL,
    storedWithDifferentValueTag PredefinedConfigValueTag
}
}
RAB-Info ::= SEQUENCE {
    rab-Identity RAB-Identity,
    cn-DomainIdentity CN-DomainIdentity,
    nas-Synchronisation-Indicator NAS-Synchronisation-Indicator OPTIONAL,
    re-EstablishmentTimer Re-EstablishmentTimer
}
```

11.5 RRC information between network nodes

```

Internode-definitions DEFINITIONS AUTOMATIC TAGS ::=
BEGIN

IMPORTS

    HandoverToUTRANCommand,
    MeasurementReport,
    PhysicalChannelReconfiguration,
    RadioBearerReconfiguration,
    RadioBearerRelease,
    RadioBearerSetup,
    TransportChannelReconfiguration
FROM PDU-definitions

-- Core Network IEs :
    CN-DomainIdentity,
    CN-DomainInformationList,
    NAS-SystemInformationGSM-MAP,
-- UTRAN Mobility IEs :
    CellIdentity,
    URA-Identity,
-- User Equipment IEs :
    C-RNTI,
    FailureCauseWithProtErr,
    RRC-MessageSequenceNumber,
    STARTList,
    U-RNTI,
    UE-RadioAccessCapability,
    UE-RadioAccessCapability-v370ext,
-- Radio Bearer IEs :
    PredefinedConfigStatusList,
    PredefinedConfigValueTag,
    RAB-InformationSetupList,
    SRB-InformationSetupList,
-- Transport Channel IEs :
    CPCH-SetID,
    DL-CommonTransChInfo,
    DL-AddReconfTransChInfoList,
    DRAC-StaticInformationList,
    UL-CommonTransChInfo,
    UL-AddReconfTransChInfoList,
-- Measurement IEs :
    MeasurementIdentity,
    MeasurementReportingMode,
    MeasurementType,
    MeasurementType-r4,
    AdditionalMeasurementID-List,
    PositionEstimate,
    UE-Positioning-IPDL-Parameters-TDD-r4-ext,
-- Other IEs :
InterRAT-UE-RadioAccessCapabilityList
FROM InformationElements

    maxCNdomains,
    maxNoOfMeas,
    maxPredefConfig,
    maxRB,
    maxSRBsetup
FROM Constant-definitions
    UE-SecurityInformation
FROM UEtoOtherRAT-definitions;

-- Part 1: Class definitions similar to what has been defined in 11.1 for RRC messages
-- Information that is tranferred in the same direction and across the same path is grouped

-- *****
--
-- RRC information, to target RNC
--
-- *****
-- RRC Information to target RNC sent either from source RNC or from another RAT

ToTargetRNC-Container ::= CHOICE {

```

```

interRATHandoverToUTRANInfo
interRATHandoverToUTRANInfoWithInterRATCapabilities-r3,
srncRelocation SRNC-RelocationInfo-r3,
extension NULL
}

-- *****
--
-- RRC information, target RNC to source RNC
--
-- *****

Target-RNC-ToSourceRNC-Container ::= CHOICE {
    radioBearerSetup RadioBearerSetup,
    radioBearerReconfiguration RadioBearerReconfiguration,
    radioBearerRelease RadioBearerRelease,
    transportChannelReconfiguration TransportChannelReconfiguration,
    physicalChannelReconfiguration PhysicalChannelReconfiguration,
rrc-InformationContainerFailureInfo RRC-InformationContainerFailureInfo-r3,
extension NULL
}

----- *****
-----
----- RRC information, target RNC to source RAT
-----
----- *****

TargetRNC-ToSourceRAT-Container ::= CHOICE {
handoverToUTRAN HandoverToUTRANCommand,
rrc-InformationContainerFailureInfo RRC-InformationContainerFailureInfo-r3,
extension NULL
}

-- Part 2: Container definitions, similar to the PDU definitions in 11.2 for RRC messages
-- In alphabetical order

-- *****
--
-- Handover to UTRAN information
--
-- *****

InterRATHandoverToUTRANInfoWithInterRATCapabilities-r3 ::= CHOICE {
    r3 SEQUENCE {
interRATHandoverToUTRANInfo-r3 InterRATHandoverToUTRANInfoWithInterRATCapabilities-
r3-IEs,
-- IE InterRATHandoverInfoWithInterRATCapabilities-r3-IEs also
-- includes non critical extensions
v390NonCriticalExtensions SEQUENCE {
interRATHandoverInfoWithInterRATCapabilities-v390ext
InterRATHandoverInfoWithInterRATCapabilities-v390ext-IEs,
handoverToUTRANInfo-v380ext HandoverToUTRANInfo-v380ext-IEs,
-- Reserved for future non critical extension
nonCriticalExtensions SEQUENCE {} OPTIONAL
    },
criticalExtensions SEQUENCE {}
}

InterRATHandoverToUTRANInfoWithInterRATCapabilities-r3-IEs ::= SEQUENCE {
-- User equipment IEs
ue-RadioAccessCapability UE-RadioAccessCapability OPTIONAL,
ue-SecurityInformation UE-SecurityInformation OPTIONAL,
-- The order of the IE may not reflect the tabular format
-- but has been chose to simplify the handling of the information in the BSC
-- Other IEs
ue-RATSpecificCapability InterRAT-UE-RadioAccessCapabilityList OPTIONAL,
interRATHandoverInfo OCTET STRING (SIZE (0..255))
-- Octet string is used to obtain 8 bit length field prior to actual information
-- This makes it possible for BSS to transparently handle information received via
-- GSM air interface even when it includes non critical extensions
-- The octet string shall include the InterRATHandoverInfo information
-- The BSS can re-use the 04.18 length field received from the MS
predefinedConfigStatusList PredefinedConfigStatusList OPTIONAL
}

```

```

HandoverToUTRANInfo-v380ext-IEs ::= SEQUENCE {
  -- User equipment IEs
  ue-RadioAccessCapability-v370ext UE-RadioAccessCapability-v370ext OPTIONAL
}

InterRATHandoverInfoWithInterRATCapabilities-v390ext-IEs ::= SEQUENCE {
  -- User equipment IEs
  failureCauseWithProtErr FailureCauseWithProtErr OPTIONAL
}

-----
-----
-- RRC information container failure info
-----
-----

RRC-InformationContainerFailureInfo-r3 ::= CHOICE {
  r3 SEQUENCE {
    rRC-InformationContainerFailureInfo-r3 RRC-InformationContainerFailureInfo-r3-IEs,
    nonCriticalExtensions SEQUENCE {} OPTIONAL
  },
  criticalExtensions SEQUENCE {}
}

RRC-InformationContainerFailureInfo-r3-IEs ::= SEQUENCE {
  Non-RRC-IEs
  failureCauseWithProtErr FailureCauseWithProtErr
}

-----
-----
-- SRNC Relocation information
-----
-----

SRNC-RelocationInfo-r3 ::= CHOICE {
  r3 SEQUENCE {
    sRNC-RelocationInfo-r3 SRNC-RelocationInfo-r3-IEs,
    v380NonCriticalExtensions SEQUENCE {
      sRNC-RelocationInfo-v380ext SRNC-RelocationInfo-v380ext-IEs,
      -- Reserved for future non critical extension
      nonCriticalExtensions SEQUENCE {} OPTIONAL
    },
    v390NonCriticalExtensions SEQUENCE {
      sRNC-RelocationInfo-v390ext SRNC-RelocationInfo-v390ext-IEs,
      -- Reserved for future non critical extension
      nonCriticalExtensions SEQUENCE {} OPTIONAL
    }
  } OPTIONAL
},
  criticalExtensions SEQUENCE {}
}

SRNC-RelocationInfo-r3-IEs ::= SEQUENCE {
  -- Non-RRC IEs
  stateOfRRC StateOfRRC,
  stateOfRRC-Procedure StateOfRRC-Procedure,
  -- Ciphering related information IEs
  -- If the extension v380 is included use the extension for the ciphering status per CN domain
  cipheringStatus CipheringStatus,
  calculationTimeForCiphering CalculationTimeForCiphering OPTIONAL,
  cipheringInfoPerRB-List CipheringInfoPerRB-List OPTIONAL,
  count-C-List COUNT-C-List OPTIONAL,
  integrityProtectionStatus IntegrityProtectionStatus,
  srb-SpecificIntegrityProtInfo SRB-SpecificIntegrityProtInfoList,
  implementationSpecificParams ImplementationSpecificParams OPTIONAL,
  -- User equipment IEs
  u-RNTI U-RNTI,
  c-RNTI C-RNTI OPTIONAL,
  ue-RadioAccessCapability UE-RadioAccessCapability,
  ue-Positioning-LastKnownPos UE-Positioning-LastKnownPos OPTIONAL,
  -- Other IEs
  ue-RATSpecificCapability InterRAT-UE-RadioAccessCapabilityList OPTIONAL,
  -- UTRAN mobility IEs
  ura-Identity URA-Identity OPTIONAL,
  -- Core network IEs
  cn-CommonGSM-MAP-NAS-SysInfo NAS-SystemInformationGSM-MAP,
  cn-DomainInformationList CN-DomainInformationList OPTIONAL,

```



```

-- Measurement IEs
  ongoingMeasRepList          OngoingMeasRepList          OPTIONAL,
-- Radio bearer IEs
  predefinedConfigStatusList  PredefinedConfigStatusList,
  srb-InformationList         SRB-InformationSetupList,
  rab-InformationList         RAB-InformationSetupList          OPTIONAL,
-- Transport channel IEs
  ul-CommonTransChInfo       UL-CommonTransChInfo          OPTIONAL,
  ul-TransChInfoList         UL-AddReconfTransChInfoList    OPTIONAL,
  modeSpecificInfo           CHOICE {
    fdd                       SEQUENCE {
      cpch-SetID              CPCH-SetID              OPTIONAL,
      transChDRAC-Info        DRAC-StaticInformationList  OPTIONAL
    },
    tdd                       NULL
  },
  dl-CommonTransChInfo       DL-CommonTransChInfo          OPTIONAL,
  dl-TransChInfoList         DL-AddReconfTransChInfoList    OPTIONAL,
-- Measurement report
  measurementReport           MeasurementReport          OPTIONAL,
  nonCriticalExtensions       SEQUENCE {
    -- In case of TDD only this IE is present otherwise this IE is absent
    up-IpdL-Parameters-TDD    UE-Positioning-IPDL-Parameters-TDD-r4-ext  OPTIONAL,
    -- Extension mechanism for non-release4 information
    nonCriticalExtensions      SEQUENCE {}
  }
}

SRNC-RelocationInfo-v380ext-IEs ::= SEQUENCE {
  -- Ciphering related information IEs
  cn-DomainIdentity           CN-DomainIdentity,
  cipheringStatusList         CipheringStatusList
}

SRNC-RelocationInfo-v390ext-IEs ::= SEQUENCE {
  cn-DomainInformationList-v390ext  CN-DomainInformationList-v390ext  OPTIONAL,
  ue-RadioAccessCapability-v370ext  UE-RadioAccessCapability-v370ext  OPTIONAL,
  ue-RadioAccessCapability-v380ext  UE-RadioAccessCapability-v380ext  OPTIONAL,
  dl-PhysChCapabilityFDD-v380-ext    DL-PhysChCapabilityFDD-v380-ext,
  failureCauseWithProtErr          FailureCauseWithProtErr          OPTIONAL
}

CipheringStatusList ::= SEQUENCE (SIZE (1..maxCNdomains)) OF
  CipheringStatusCNdomain

CipheringStatusCNdomain ::= SEQUENCE {
  cn-DomainIdentity           CN-DomainIdentity,
  cipheringStatus             CipheringStatus
}

SRNC-RelocationInfo-r4 ::= SEQUENCE {
  -- Non-RRC IEs
  stateOfRRC                  StateOfRRC,
  stateOfRRC-Procedure         StateOfRRC-Procedure,
  cipheringStatus              CipheringStatus,
  calculationTimeForCiphering  CalculationTimeForCiphering      OPTIONAL,
  cipheringInfoPerRB-List      CipheringInfoPerRB-List          OPTIONAL,
  integrityProtectionStatus     IntegrityProtectionStatus,
  srb-SpecificIntegrityProtInfo SRB-SpecificIntegrityProtInfoList,
  implementationSpecificParams  ImplementationSpecificParams    OPTIONAL,
  -- User equipment IEs
  u-RNTI                       U-RNTI,
  c-RNTI                       C-RNTI                            OPTIONAL,
  ue-RadioAccessCapability      UE-RadioAccessCapability,
  ue-Positioning-LastKnownPos   UE-Positioning-LastKnownPos      OPTIONAL,
  -- Other IEs
  ue-RATSpecificCapability      InterRAT-UE-RadioAccessCapabilityList  OPTIONAL,
  -- UTRAN mobility IEs
  ura-Identity                 URA-Identity                      OPTIONAL,
  -- Core network IEs
  cn-CommonGSM-MAP-NAS-SysInfo NAS-SystemInformationGSM-MAP,
  cn-DomainInformationList      CN-DomainInformationList          OPTIONAL,
  -- Measurement IEs
  ongoingMeasRepList           OngoingMeasRepList-r4           OPTIONAL,
  -- Radio bearer IEs
  predefinedConfigStatusList    PredefinedConfigStatusList,
  srb-InformationList           SRB-InformationSetupList,
  rab-InformationList           RAB-InformationSetupList          OPTIONAL,

```

```

-- Transport channel IEs
  ul-CommonTransChInfo      UL-CommonTransChInfo      OPTIONAL,
  ul-TransChInfoList        UL-AddReconfTransChInfoList    OPTIONAL,
  modeSpecificInfo          CHOICE {
    fdd                      SEQUENCE {
      cpch-SetID             CPCH-SetID             OPTIONAL,
      transChDRAC-Info      DRAC-StaticInformationList OPTIONAL
    },
    tdd                      NULL
  },
  dl-CommonTransChInfo      DL-CommonTransChInfo      OPTIONAL,
  dl-TransChInfoList        DL-AddReconfTransChInfoList    OPTIONAL,
-- Measurement report
  measurementReport         MeasurementReport         OPTIONAL,
  nonCriticalExtensions      SEQUENCE {
-- In case of TDD only this IE is present otherwise this IE is absent
    up-IPDL-Parameters-TDD   UE-Positioning-IPDL-Parameters-TDD-r4-ext OPTIONAL,
-- Extension mechanism for non-release4 information
    nonCriticalExtensions    SEQUENCE {}
  }
}

-- IE definitions

CalculationTimeForCipherng ::= SEQUENCE {
  cell-Id      CellIdentity,
  sfn          INTEGER (0..4095)
}

CipherngInfoPerRB ::= SEQUENCE {
  dl-HFN      BIT STRING (SIZE (20..25)),
  ul-HFN      BIT STRING (SIZE (20..25))
}

-- TABULAR: Multiplicity value numberOfRadioBearers has been replaced
-- with maxRB.
CipherngInfoPerRB-List ::= SEQUENCE (SIZE (1..maxRB)) OF
  CipherngInfoPerRB

CipherngStatus ::= ENUMERATED {
  started, notStarted }

CN-DomainInformation-v390ext ::= SEQUENCE {
  cn-DRX-CycleLengthCoeff  CN-DRX-CycleLengthCoefficient
}

CN-DomainInformationList-v390ext ::= SEQUENCE (SIZE (1..maxCNdomains)) OF
  CN-DomainInformation-v390ext

COUNT-C-List ::= SEQUENCE (SIZE (1..maxCNdomains)) OF
  COUNT-C-List

COUNT-C-List ::= SEQUENCE {
  cn-DomainIdentity  CN-DomainIdentity,
  count-C            BIT STRING (SIZE (32))
}

ImplementationSpecificParams ::= BIT STRING (SIZE (1..512))

IntegrityProtectionStatus ::= ENUMERATED {
  started, notStarted }

MeasurementCommandWithType ::= CHOICE {
  setup      MeasurementType,
  modify     NULL,
  release    NULL
}

MeasurementCommandWithType-r4 ::= CHOICE {
  setup      MeasurementType-r4,
  modify     NULL,
  release    NULL
}

OngoingMeasRep ::= SEQUENCE {
  measurementIdentity      MeasurementIdentity,
  measurementCommandWithType  MeasurementCommandWithType,

```

```

-- TABULAR: The CHOICE Measurement in the tabular description is included
-- in the IE above.
measurementReportingMode           MeasurementReportingMode           OPTIONAL,
additionalMeasurementID-List       AdditionalMeasurementID-List       OPTIONAL
}

OngoingMeasRep-r4 ::=                SEQUENCE {
  measurementIdentity               MeasurementIdentity,
  measurementCommandWithType        MeasurementCommandWithType-r4,
  -- TABULAR: The CHOICE Measurement in the tabular description is included
  -- in the IE above.
  measurementReportingMode          MeasurementReportingMode           OPTIONAL,
  additionalMeasurementID-List      AdditionalMeasurementID-List      OPTIONAL
}

OngoingMeasRepList ::=                SEQUENCE (SIZE (1..maxNoOfMeas)) OF
  OngoingMeasRep

OngoingMeasRepList-r4 ::=            SEQUENCE (SIZE (1..maxNoOfMeas)) OF
  OngoingMeasRep-r4

PredefinedConfigStatusList ::=      SEQUENCE (SIZE (16)) OF
  PredefinedConfigStatusInfo

PredefinedConfigStatusInfo ::=     SEQUENCE {
  predefinedConfigValueTag          PredefinedConfigValueTag         OPTIONAL
  -- Absence of the IE indicates that the UE has not stored the corresponding preconfiguration
}

SRB-SpecificIntegrityProtInfo ::=    SEQUENCE {
  ul-RRC-HFN                       BIT STRING (SIZE (28)),
  dl-RRC-HFN                       BIT STRING (SIZE (28)),
  ul-RRC-SequenceNumber            RRC-MessageSequenceNumber,
  dl-RRC-SequenceNumber            RRC-MessageSequenceNumber
}

SRB-SpecificIntegrityProtInfoList ::= SEQUENCE (SIZE (4..maxSRBsetup)) OF
  SRB-SpecificIntegrityProtInfo

StateOfRRC ::=                       ENUMERATED {
  cell-DCH, cell-FACH,
  cell-PCH, ura-PCH }

StateOfRRC-Procedure ::=             ENUMERATED {
  awaitNoRRC-Message,
  awaitRRC-ConnectionRe-establishmentComplete,
  awaitRB-SetupComplete,
  awaitRB-ReconfigurationComplete,
  awaitTransportCH-ReconfigurationComplete,
  awaitPhysicalCH-ReconfigurationComplete,
  awaitActiveSetUpdateComplete,
  awaitHandoverComplete,
  sendCellUpdateConfirm,
  sendUraUpdateConfirm,
  sendRrcConnectionReestablishment,
  otherStates
}

UE-Positioning-LastKnownPos ::=      SEQUENCE {
  sfn                               INTEGER (0..4095),
  cell-id                           CellIdentity,
  positionEstimate                  PositionEstimate
}

END

```

~~11.6 RRC information between UE and other RATs~~

```

UEtoOtherRAT definitions DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

IMPORTS

-- User Equipment IEs --
-- START Value,

```

```


UE-RadioAccessCapability,
UE-RadioAccessCapability-v370ext,
DL-PhysChCapabilityFDD-v380ext,
Radio-Bearer-IEs,
PredefinedConfigValueTag
FROM-InformationElements;

Part 1: Class definitions similar to what has been defined in 11.1 for RRC messages
Information that is transferred in the same direction and across the same path is grouped
*****
--
RRC information, to target RNC
--
*****
RRC Information to target RNC sent either from source RNC or from another RAT
--
Currently not used
*****
--
RRC information, target RNC to source RNC
--
*****
--
Currently not used
*****
--
RRC information, target RNC to source RAT
--
*****
--
Currently not used
--
Part 2: Container definitions, similar to the PDU definitions in 11.2 for RRC messages
In alphabetical order
--
Currently not used
--
Part 3: Non-extensible IE definitions
In alphabetical order
UE-CapabilityInformation ::= SEQUENCE {
  ue-RadioAccessCapability UE-RadioAccessCapability,
  ue-RadioAccessCapabilityExt1 UE-RadioAccessCapability-v370ext
}
UE-SecurityInformation ::= SEQUENCE {
  start-CS START-Value
}
END


```

13.4.10a INTER RAT HANDOVER INFO TRANSFERRED

This variable stores information about the inter RAT handover info that has been transferred to another RAT.

<u>Information Element/Group name</u>	<u>Need</u>	<u>Multi</u>	<u>Type and reference</u>	<u>Semantics description</u>
<u>Pre-defined configuration status information</u>	<u>OP</u>		<u>Pre-defined configuration status information 10.3.4.x</u>	<u>Cleared upon entering connected mode in another RAT</u>
<u>UE security information</u>	<u>OP</u>		<u>UE security information 10.3.3.x</u>	<u>Cleared upon entering connected mode in another RAT</u>
<u>UE radio access capability</u>	<u>OP</u>		<u>UE radio access capability 10.3.3.42</u>	<u>Cleared upon entering connected mode in another RAT</u>
<u>UE radio access capability extension</u>	<u>OP</u>		<u>UE radio access capability extension 10.3.3.42a</u>	<u>Cleared upon entering connected mode in another RAT</u>
<u>UE system specific capability</u>	<u>OP</u>	<u>1 to <maxSystemCapability ≥</u>	<u>Inter-RAT UE radio access capability 10.3.8.7</u>	<u>Cleared upon entering connected mode in another RAT</u>
<u>>Inter-RAT UE radio access capability</u>	<u>MP</u>		<u>Inter-RAT UE radio access capability 10.3.8.7</u>	

14.12 Provision and reception of RRC information between network nodes

14.12.0 General

In certain cases, e.g., when performing handover to UTRAN or when performing SRNC relocation, RRC information may need to be transferred between UTRAN nodes, between UTRAN and another RATs, between nodes within another RAT or between the UE and another RAT, and UTRAN or between UTRAN nodes within UTRAN. In the following, the details of the RRC information to be transferred are specified per direction.

~~In the following the RRC information exchanged between network nodes or between the UE and another RAT is sometimes referred to as typically transferred by means of RRC information containers. An RRC information container is a self contained and extensible RRC information unit that may be used to transfer a number of different RRC messages, one at a time. As stated before, RRC information containers may be used to transfer RRC messages across interfaces other than the Uu interface. The RRC messages that may be included in RRC information containers have similar characteristics as the RRC messages that are transferred across the Uu interface. This term is used for information which handling resembles that of RRC messages rather than of RRC information elements.~~

The RRC messages that are sent to/ from the UE e.g. HANDOVER TO UTRAN COMMAND, INTER RAT HANDOVER INFO are covered by (sub)clauses 8, 9, 10, 11.0- 11.4 and 12 of this specification. The following sections concern RRC messages exchanged between network nodes.

In future versions of this specification, it is possible to extend the RRC ~~information messages~~ transferred across interfaces other than Uu~~between network nodes~~. For RRC ~~messages information containers~~ the same extension mechanism applies as defined for RRC messages transferred across the Uu interface, which as is specified in subclause 10.1. ~~For RRC information containers specified in the following, i.e.~~ both critical and non-critical extensions may be added.

~~Like for the Uu interface, the transfer syntax for RRC information containers and RRC messages transferred between UTRAN network nodes and/or between UTRAN and other RATs is derived from their ASN.1 definitions by use of Packed Encoding Rules, unaligned (X.691). It should be noted that the encoder adds final padding to achieve octet alignment. The resulting octet string is, carried in a container, transferred between the network nodes.~~

When using a separate RRC information container for each endpoint, the receiving RRC protocol entity is able to interpret the received container; this means that the receiver need not take into account information about the (network interface) message used in transferring the container.

14.12.0a General error handling for RRC messages exchanged between network nodes information containers

~~The handling of RRC messages that are terminated in the UE and transferred using RRC information containers is covered by clauses 8 and 9 of this specification.~~

The error handling for RRC ~~messages information containers~~ that are ~~terminated in~~ exchanged between network nodes applies the same principles as defined for other RRC messages, as specified in the following.

Although the same principles apply for network nodes receiving unknown, unforeseen and erroneous RRC messages received in RRC information containers, ~~although~~ the notification of the error should be done in a different manner, as specified in the following:

The network node receiving an invalid RRC information container from another network node should:

- if the received RRC information container was unknown, unforeseen or erroneous:
 - prepare an RRC ~~INFORMATION CONTAINER FAILURE INFO message container~~, including the IE "Failure cause" set to "Protocol error" and the IE "Protocol error information" including an IE "Protocol error cause" which should be set as follows:
 - to "ASN.1 violation or encoding error" upon receiving an RRC ~~information container message~~ for which the encoded message does not result in any valid abstract syntax value;

- to "Message type non-existent or not implemented" upon receiving an unknown RRC message information container type;
- to "Message extension not comprehended" upon receiving an RRC message information container including an undefined critical message extension;
- to "Information element value not comprehended" upon receiving an RRC information container message including an mandatory IE for which no default value is defined and for which either the value is set to spare or for which the encoded IE does not result in a valid transfer syntax. The same applies for conditional IEs, for which the conditions for presence are met, the IE is present but has a value set to spare or for which the encoded IE does not result in a valid transfer syntax;
- to "Conditional information element error" upon receiving an RRC information container message with an absent conditional IE for which the conditions for presence are met;
- if there was another failure to perform the operation requested by the received RRC information container message:
 - prepare an RRC INFORMATION CONTAINER FAILURE INFO container message, including the IE "Failure cause" set to a value that reflects the failure cause;
 - send the RRC INFORMATION CONTAINER FAILURE INFO container message to the network node from which the invalid RRC protocol information was received.

NOTE 1: The appropriate (failure) messages used across the network interfaces may not support the inclusion of a RRC information container. In this case, the information contained in the RRC RRC FAILURE INFO message may need to be transferred otherwise e.g. by mapping to a cause value (e.g. a cause value in the RR-HANDOVER FAILURE message when there is a error associated with the RRC-HANDOVER TO UTRAN COMMAND message).

NOTE 2 In case the RRC procedure used to perform SRNS relocation fails e.g. due to non comprehension, the source RNC may notify the target RNC by including the diagnostics information (IEs "Protocol error" and "Protocol error information") in the "RRC message "SRNS Relocation" Info sent in the RRC information container " used for a subsequent relocation request.

~~NOTE: The RRC information container may be transferred across the network interfaces by means of a transparent container, if available.~~

14.12.1 RRC Information to target RNC

The RRC information container "RRC Information to target RNC" may either be sent from source RNC or from another RAT. In case of handover to UTRAN, this information originates from another RAT, while in case of SRNC relocation the RRC information originates from the source RNC. In case of handover to UTRAN, the RRC information transferred may provide UTRAN specific information, as defined in the INTER RAT HANDOVER INFO WITH INTER RAT CAPABILITIES message, that the target RNC needs when preparing the handover command message. In case of SRNC ~~information~~ relocation, the RRC information transferred specifies the configuration of RRC and the lower layers it controls, e.g., including the radio bearer and transport channel configuration. It is used by the target RNC to initialise RRC and the lower layer protocols to facilitate SRNC relocation in a manner transparent to the UE.

Information Element/Group Name	Need	Multi	Type and reference	Semantics description
CHOICE case	MP			At least one spare choice, Criticality: Reject, is needed
>Handover to UTRAN			INTER RAT HANDOVER TO-UTRAN INFO WITH INTER RAT CAPABILITIES ES.14.12.4.1	
>SRNC relocation			SRNS RELOCATION INFO 14.12.4.2	

14.12.2 RRC information, target RNC to source RNC

There are 2 possible cases for RNC relocation:

1. The UE is already under control of target RNC; and
2. The SRNC Relocation with Hard Handover (UE still under control of SRNC), but UE is moving to a location controlled by the target RNC (based on measurement information).

In case 1 the relocation is transparent to the UE and there is no "reverse" direction container. The SRNC just assigns the 'serving' function to the target RNC, which then becomes the Serving RNC.

In case 2 the relocation is initiated by SRNC, which also provides the RRC Initialisation Information to the target RNC. Base on this information, the target RNC prepares the Hard Handover Message ("Physical channel reconfiguration" (subclause 8.2.6), "radio bearer establishment" (subclause 8.2.1), "Radio bearer reconfiguration" (subclause 8.2.2), "Radio bearer release" (subclause 8.2.3) or "Transport channel reconfiguration" (subclause 8.2.4).

The source RNC then transmits the Handover Message to the UE, which then performs the handover.

In the successful case, the UE transmits an XXX COMPLETE message, using the new configuration, to the target RNC.

In case of failure, the UE transmits an XXX FAILURE, using the old configuration, to the source RNC and the RRC context remains unchanged (has to be confirmed and checked with the SRNS relocation procedure).

Information Element/Group name	Need	Multi	Type and reference	Semantics description
CHOICE <i>RRC message</i>	MP			At least one spare choice, Criticality: Reject, is needed
>RADIO BEARER SETUP			RADIO BEARER SETUP 10.2.31	
>RADIO BEARER RECONFIGURATION			RADIO BEARER RECONFIGURATION 10.2.25	
>RADIO BEARER RELEASE			RADIO BEARER RELEASE 10.2.28	
>TRANSPORT CHANNEL RECONFIGURATION			TRANSPORT CHANNEL RECONFIGURATION 10.2.51	
>PHYSICAL CHANNEL RECONFIGURATION			PHYSICAL CHANNEL RECONFIGURATION 10.2.20	
>RRC INFORMATION CONTAINER-FAILURE INFO			RRC INFORMATION CONTAINER-FAILURE INFO 14.12.4.3	

14.12.3 RRC information, target RNC to source system

The RRC information, target RNC to source system is used to transfer information to another RAT, e.g., in case of handover to UTRAN. In this case, the RRC information concerns the "Handover To UTRAN Command" that is compiled by the target RNC but transferred via another RAT towards the UE, as specified in 8.3.6.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
CHOICE case	MP			At least one spare choice, Criticality: Reject, is needed
>handover to UTRAN			HANDOVER TO UTRAN COMMAND 10.2.12	
>RRC INFORMATION CONTAINER FAILURE INFO			RRC INFORMATION CONTAINER FAILURE INFO 14.12.4.3	

14.12.4 RRC information containers messages exchanged between network nodes

14.12.4.0 HANDOVER TO UTRAN COMMAND

This RRC message is sent between network nodes to transfer the actual handover command including the details of the radio configuration to be used upon handover to UTRAN as compiled by the target RNC.

Direction: target RNC →source RAT

The message is exactly the same as the HANDOVER TO UTRAN COMMAND defined in 10.2.12

14.12.4.0a INTER RAT HANDOVER INFO

This RRC message is sent between network nodes to transfer information relevant for the target RNC when preparing for handover to UTRAN.

Direction: source RNC/ RAT →target RAT

The message is exactly the same as the INTER RAT HANDOVER INFO defined in 10.2.y

14.12.4.1 INTER RAT HANDOVER TO UTRAN INFO WITH INTER RAT CAPABILITIES

This RRC ~~information container~~ message is sent between network nodes when preparing for an inter RAT handover to UTRAN.

Direction: source RAT →target RNC

Information Element/Group Name	Need	Multi	Type and reference	Semantics description
UE Information elements				
<u>UE security information</u>	OP		<u>UE security information 10.3.3.x</u>	
UE radio access capability	OP		UE radio access capability 10.3.3.42	
UE radio access capability extension	OP		UE radio access capability extension 10.3.3.42a	
Radio Bearer IEs				
<u>Pre-defined configuration status information</u>	OP		<u>Pre-defined configuration status information 10.3.4.x</u>	
Other Information elements				
<u>UE system specific capability</u>	OP	1 to <maxSystemCapability>		
>Inter-RAT UE radio access capability	MP		<u>Inter-RAT UE radio access capability 10.3.8.7</u>	
<u>Failure cause</u>	OP		<u>Failure cause 10.3.3.13</u>	<u>Diagnostics information related to an earlier handover to UTRAN request</u>
<u>Protocol error information</u>	<u>CV-ProtErr</u>		<u>Protocol error information 10.3.8.12</u>	
Non RRC IEs				
UE system specific capability	OP		UE system specific capability 14.13.2.4	
UE security information	OP		UE security information 14.13.2.2	
Pre-defined configuration status information	OP		Pre-defined configuration status information 14.13.2.3	

Condition	Explanation
<u>ProtErr</u>	This IE is mandatory present if the IE "Protocol error indicator" is included and has the value "TRUE". Otherwise it is not needed.

NOTE The above table does not need to reflect the order of the information elements in the actual encoded message. The order, that is reflected in the ASN.1, should be chosen in a manner that avoids that network nodes need to perform re-ordering of information elements.

14.12.4.2 SRNS RELOCATION INFO

This RRC information container message is sent between network nodes when preparing for an SRNS relocation.

Direction: source RAT→target RNC

Information Element/Group Name	Need	Multi	Type and reference	Semantics description
Non RRC IEs				
>State of RRC	MP		RRC state indicator, 10.3.3.10	
>State of RRC procedure	MP		Enumerated (await no RRC message, Complete, await RB Setup Complete, await RB Reconfiguration Complete, await RB Release Complete, await Transport CH Reconfiguration Complete, await Physical CH Reconfiguration Complete, await Active Set Update Complete, await Handover Complete, send Cell Update Confirm, send URA Update Confirm, , others)	
Ciphering related information				
>Ciphering status for each CN domain	MP	<1 to maxCNDomains>		
>>CN domain identity	MP		CN domain identity 10.3.1.1	
>>Ciphering status	MP		Enumerated(Not started, Started)	
>Latest configured CN domain	MP		CN domain identity 10.3.1.1	Value contained in the variable of the same name.
>Calculation time for ciphering related information	CV- <i>Ciphering</i>			Time when the ciphering information of the message were calculated, relative to a cell of the target RNC
>>Cell Identity	MP		Cell Identity 10.3.2.2	Identity of one of the cells under the target RNC and included in the active set of the current call
>>SFN	MP		Integer(0..4095)	

Information Element/Group Name	Need	Multi	Type and reference	Semantics description
>COUNT-C list	CV- <i>Ciphering</i>	1 to <maxCNdo mains>		COUNT-C values for radio bearers using transparent mode RLC
>>CN domain identity	MP		CN domain identity 10.3.1.1	
>>COUNT-C	MP		Bit string(32)	
>Ciphering info per radio bearer	OP	1 to <maxRB>		For signalling radio bearers this IE is mandatory.
>>RB identity	MP		RB identity 10.3.4.16	
>>Downlink HFN	MP		Bit string(20..25)	This IE is either RLC AM HFN (20 bits) or RLC UM HFN (25 bits)
>>Uplink HFN	MP		Bit string(20..25)	This IE is either RLC AM HFN (20 bits) or RLC UM HFN (25 bits)
Integrity protection related information				
>Integrity protection status	MP		Enumerated(Not started, Started)	
>Signalling radio bearer specific integrity protection information	CV- <i>IP</i>	4 to <maxSRBs etup>		
>>Uplink RRC HFN	MP		Bit string (28)	
>>Downlink RRC HFN	MP		Bit string (28)	
>>Uplink RRC Message sequence number	MP		Integer (0.. 15)	
>>Downlink RRC Message sequence number	MP		Integer (0.. 15)	
>Implementation specific parameters	OP		Bit string (1..512)	
RRC IEs				
UE Information elements				
>U-RNTI	MP		U-RNTI 10.3.3.47	
>C-RNTI	OP		C-RNTI 10.3.3.8	
>UE radio access Capability	MP		UE radio access capability 10.3.3.42	
>UE radio access capability extension	OP		UE radio access capability extension 10.3.3.42a	
>Last known UE position	OP			
>>SFN	MP		Integer (0..4095)	Time when position was estimated
>>Cell ID	MP		Cell identity; 10.3.2.2	Indicates the cell, the SFN is valid for.
>>CHOICE <i>Position estimate</i>	MP			
>>>Ellipsoid Point			Ellipsoid Point; 10.3.8.4a	
>>>Ellipsoid point with uncertainty circle			Ellipsoid point with uncertainty circle 10.3.8.4d	
>>>Ellipsoid point with			Ellipsoid	

Information Element/Group Name	Need	Multi	Type and reference	Semantics description
uncertainty ellipse			point with uncertainty ellipse 10.3.8.4e	
>>>Ellipsoid point with altitude			Ellipsoid point with altitude 10.3.8.4b	
>>>Ellipsoid point with altitude and uncertainty ellipsoid			Ellipsoid point with altitude and uncertainty ellipsoid 10.3.8.4c	
Other Information elements				
>UE system specific capability	OP	1 to <maxSystemCapability>		
>>Inter-RAT UE radio access capability	MP		Inter-RAT UE radio access capability 10.3.8.7	
UTRAN Mobility Information elements				
>URA Identifier	OP		URA identity 10.3.2.6	
CN Information Elements				
>CN common GSM-MAP NAS system information	MP		NAS system information (GSM-MAP) 10.3.1.9	
>CN domain related information	OP	1 to <MaxCNdomains>		CN related information to be provided for each CN domain
>>CN domain identity	MP			
>>CN domain specific GSM-MAP NAS system info	MP		NAS system information (GSM-MAP) 10.3.1.9	
>>CN domain specific DRX cycle length coefficient	MP		CN domain specific DRX cycle length coefficient, 10.3.3.6	
Measurement Related Information elements				
>For each ongoing measurement reporting	OP	1 to <MaxNoOfMeas>		
>>Measurement Identity	MP		Measurement identity 10.3.7.48	
>>Measurement Command	MP		Measurement command 10.3.7.46	
>>Measurement Type	CV-Setup		Measurement type 10.3.7.50	
>>Measurement Reporting Mode	OP		Measurement reporting mode 10.3.7.49	
>>Additional Measurements list	OP		Additional	

Information Element/Group Name	Need	Multi	Type and reference	Semantics description
			measurements list 10.3.7.1	
>>CHOICE <i>Measurement</i>	OP			
>>>Intra-frequency				
>>>>Intra-frequency cell info	OP		Intra-frequency cell info list 10.3.7.33	
>>>>Intra-frequency measurement quantity	OP		Intra-frequency measurement quantity 10.3.7.38	
>>>>Intra-frequency reporting quantity	OP		Intra-frequency reporting quantity 10.3.7.41	
>>>>Reporting cell status	OP		Reporting cell status 10.3.7.61	
>>>>Measurement validity	OP		Measurement validity 10.3.7.51	
>>>>CHOICE <i>report criteria</i>	OP			
>>>>>Intra-frequency measurement reporting criteria			Intra-frequency measurement reporting criteria 10.3.7.39	
>>>>>Periodical reporting			Periodical reporting criteria 10.3.7.53	
>>>>>No reporting			NULL	
>>>Inter-frequency				
>>>>Inter-frequency cell info	OP		Inter-frequency cell info list 10.3.7.13	
>>>>Inter-frequency measurement quantity	OP		Inter-frequency measurement quantity 10.3.7.18	
>>>>Inter-frequency reporting quantity	OP		Inter-frequency reporting quantity 10.3.7.21	
>>>>Reporting cell status	OP		Reporting cell status 10.3.7.61	
>>>>Measurement validity	OP		Measurement validity 10.3.7.51	
>>>>CHOICE <i>report criteria</i>	OP			
>>>>>Inter-frequency measurement reporting criteria			Inter-frequency measurement reporting criteria 10.3.7.19	

Information Element/Group Name	Need	Multi	Type and reference	Semantics description
>>>>Periodical reporting			Periodical reporting criteria 10.3.7.53	
>>>>No reporting			NULL	
>>>Inter-RAT				
>>>>Inter-RAT cell info	OP		Inter-RAT cell info list 10.3.7.23	
>>>>Inter-RAT measurement quantity	OP		Inter-RAT measurement quantity 10.3.7.29	
>>>>Inter-RAT reporting quantity	OP		Inter-RAT reporting quantity 10.3.7.32	
>>>>Reporting cell status	OP		Reporting cell status 10.3.7.61	
>>>>Measurement validity	OP		Measurement validity 10.3.7.51	
>>>>CHOICE <i>report criteria</i>	OP			
>>>>>Inter-RAT measurement reporting criteria			Inter-RAT measurement reporting criteria 10.3.7.30	
>>>>>Periodical reporting			Periodical reporting criteria 10.3.7.53	
>>>>>No reporting			NULL	
>>>Traffic Volume				
>>>>Traffic volume measurement Object	OP		Traffic volume measurement object 10.3.7.70	
>>>>Traffic volume measurement quantity	OP		Traffic volume measurement quantity 10.3.7.71	
>>>>Traffic volume reporting quantity	OP		Traffic volume reporting quantity 10.3.7.74	
>>>>CHOICE <i>report criteria</i>	OP			
>>>>>Traffic volume measurement reporting criteria			Traffic volume measurement reporting criteria 10.3.7.72	
>>>>>Periodical reporting			Periodical reporting criteria 10.3.7.53	
>>>>>No reporting			NULL	
>>>Quality				
>>>>Quality measurement Object	OP		Quality measurement	

Information Element/Group Name	Need	Multi	Type and reference	Semantics description
			t object	
>>>>CHOICE <i>report criteria</i>	OP			
>>>>>Quality measurement reporting criteria			Quality measurement reporting criteria 10.3.7.58	
>>>>>Periodical reporting			Periodical reporting criteria 10.3.7.53	
>>>>>No reporting			NULL	
>>>UE internal				
>>>>UE internal measurement quantity	OP		UE internal measurement quantity 10.3.7.79	
>>>>UE internal reporting quantity	OP		UE internal reporting quantity 10.3.7.82	
>>>>CHOICE <i>report criteria</i>	OP			
>>>>>UE internal measurement reporting criteria			UE internal measurement reporting criteria 10.3.7.80	
>>>>>Periodical reporting			Periodical reporting criteria 10.3.7.53	
>>>>>No reporting			NULL	
>>>UE positioning				
>>>>LCS reporting quantity	OP		LCS reporting quantity 10.3.7.111	
>>>>CHOICE <i>report criteria</i>	OP			
>>>>>LCS reporting criteria			LCS reporting criteria 10.3.7.110	
>>>>>Periodical reporting			Periodical reporting criteria 10.3.7.53	
>>>>>No reporting				
Radio Bearer Information Elements				
>Pre-defined configuration status information	OP		Pre-defined configuration status information 14.13.2.3	
>Signalling RB information list	MP	1 to <maxSRBs etup>		For each signalling radio bearer
>>Signalling RB information	MP		Signalling RB information to setup 10.3.4.24	
>RAB information list	OP	1 to <maxRABs etup>		Information for each RAB

Information Element/Group Name	Need	Multi	Type and reference	Semantics description
>>RAB information	MP		RAB information to setup 10.3.4.10	
Transport Channel 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	
>UL transport channel information list	OP	1 to <MaxTrCH >		
>>UL transport channel information	MP		Added or reconfigured UL TrCH information 10.3.5.2	
>CHOICE mode	OP			
>>FDD				
>>>CPCH set ID	OP		CPCH set ID 10.3.5.5	
>>>>Transport channel 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	
>DL transport channel information list	OP	1 to <MaxTrCH >		
>>DL transport channel information	MP		Added or reconfigured DL TrCH information 10.3.5.1	
>Measurement report	OP		MEASUREMENT REPORT 10.2.17	
Other Information elements				
<u>Failure cause</u>	<u>OP</u>		<u>Failure cause 10.3.3.13</u>	<u>Diagnostics information related to an earlier SRNC Relocation request (see note 2 in 14.12.0a)</u>
<u>Protocol error information</u>	<u>CV-ProtErr</u>		<u>Protocol error information 10.3.8.12</u>	

Multi Bound	Explanation
MaxNoOfMeas	Maximum number of active measurements, upper limit 16

Condition	Explanation
<i>Setup</i>	The IE is mandatory present when the IE Measurement command has the value "Setup", otherwise the IE is not needed.
<i>Ciphering</i>	The IE is mandatory present when the IE Ciphering Status has the value "started" and the ciphering counters need not be reinitialised, otherwise the IE is not needed.
<i>IP</i>	The IE is mandatory present when the IE Integrity protection status has the value "started" and the integrity protection counters need not be reinitialised, otherwise the IE is not needed.
<i>PDCP</i>	The IE is mandatory present when the PDCP Info IE is present, otherwise the IE is not needed.

14.12.4.3 RRC INFORMATION CONTAINER FAILURE INFO

This RRC information container is sent between network nodes to provide information about the cause for failure to perform the requested operation.

— Direction: target RNC → source RNC, source RAT

Information Element/Group Name	Need	Multi	Type and reference	Semantics description
Other Information elements				
Failure cause	MP		Failure cause 10.3.3.13	
Protocol error information	CV-ProtErr		Protocol error information 10.3.8.12	

Condition	Explanation
<i>ProtErr</i>	Presence is mandatory if the IE "Failure cause" has the value "Protocol error"; otherwise the element is not needed in the message.

14.13 RRC information transferred between UE and other systems

14.13.0 General

This subclause specifies RRC information that is exchanged between other systems and the UE. This information is transferred via another RAT in accordance with the specifications applicable for those systems. This subclause specifies the UTRAN RRC information applicable for the different information flows.

NOTE: — Currently RRC information containers, using the RRC protocol extension mechanism, are not used for information transferred between UE and another RAT

Like for the Uu interface, the transfer syntax for RRC transferred between UE and other RATs is derived from their ASN.1 definitions by use of Packed Encoding Rules, unaligned (X.691). It should be noted that the encoder adds final padding to achieve octet alignment. The resulting octet string is transferred across the other RAT as defined in the specifications applicable for that RAT.

~~14.13.1 RRC information, another RAT to UE~~

~~14.13.1.1 Void~~

~~14.13.2 RRC information, UE to another RAT~~

~~14.13.2.1 UE capability information~~

~~Upon receiving a UE information request from another system, the UE shall indicate the requested capabilities. The UE capability information includes the following RRC information:~~

Information Element/Group name	Need	Multi	Type and reference	Semantics description
UE information elements				
UE radio access capability	OP		UE radio access capability 10.3.3.42	
UE radio access capability extension	OP		UE radio access capability extension 10.3.3.42a	

~~14.13.2.2 UE security information~~

~~Upon receiving a UE information request from another system, the UE shall indicate the requested security information. The UE security information includes the following RRC information:~~

Information Element/Group name	Need	Multi	Type and reference	Semantics description
UE information elements				
START-CS	MP		START 10.3.3.38	START values to be used in this CN domain.

~~14.13.2.3 Pre-defined configuration status information~~

~~Another system may provide the UE with one or more pre-defined UTRAN configurations, comprising of radio bearer, transport channel and physical channel parameters. If requested, the UE shall indicate the configurations it has stored. The pre-defined configuration status information should include the following RRC information:~~

Information Element/Group name	Need	Multi	Type and reference	Semantics description
RB information elements				
Predefined configurations		maxPredef ConfigCount		The list is in order of preconfiguration identity
>Predefined configuration value tag	OP		Predefined configuration value tag 10.3.4.6	The UE shall include the value tag if it has stored the concerned configuration

Multi Bound	Explanation
MaxPredefConfigCount	Maximum number of predefined configurations

~~14.13.2.4~~—Void

CHANGE REQUEST

⌘ **25.331 CR 1089** ⌘ rev **-** ⌘ Current version: **3.8.0** ⌘

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

Proposed change affects: ⌘ (U)SIM ME/UE Radio Access Network Core Network

Title:	⌘ Removal of Block SSTD		
Source:	⌘ TSG-RAN WG2		
Work item code:	⌘ TEI	Date:	⌘ November 19, 2001
Category:	⌘ F	Release:	⌘ R99
	<i>Use one of the following categories:</i> 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.		<i>Use one of the following releases:</i> 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)

Reason for change:	⌘ The Block STTD is no longer applied it was replaced by Space Code Transmit Diversity (SCTD).
Summary of change:	⌘ References to Block STTD are removed and replaced by SCTD.
Consequences if not approved:	⌘ Incorrect information in the specification, inconsistencies between specifications. Isolated impact analysis: The signaling is not affected.

Clauses affected:	⌘ 3.2, 10.3.6.7, 10.3.6.57, 10.3.6.58, 11.3		
Other specs affected:	⌘ <input checked="" type="checkbox"/> Other core specifications ⌘ <input type="checkbox"/> Test specifications ⌘ <input type="checkbox"/> O&M Specifications	⌘	25.221, 25.224, 25.225, 25.102 25.331 v4.2.1, CR 1090 WG3 - 25.423 CR 490(R99) and 491(R4) WG3 - 25.433 CR 549(R99) and 550(R4)
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/3G_Specs/CRs.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.

3.2 Abbreviations

For the purposes of the present document, the following abbreviations apply:

ACK	Acknowledgement
AICH	Acquisition Indicator CHannel
AM	Acknowledged Mode
AS	Access Stratum
ASC	Access Service Class
ASN.1	Abstract Syntax Notation.1
BCCH	Broadcast Control Channel
BCFE	Broadcast Control Functional Entity
BER	Bit Error Rate
BLER	BLock Error Rate
BSS	Base Station Sub-system
CH	Conditional on history
CV	Conditional on value
CCPCH	Common Control Physical CHannel
CCCH	Common Control Channel
CN	Core Network
CM	Connection Management
CPCH	Common Packet CHannel
C-RNTI	Cell RNTI
CTCH	Common Traffic CHannel
CTFC	Calculated Transport Format Combination
DCA	Dynamic Channel Allocation
DCCH	Dedicated Control Channel
DCFE	Dedicated Control Functional Entity
DCH	Dedicated Channel
DC-SAP	Dedicated Control SAP
DGPS	Differential Global Positioning System
DL	Downlink
DRAC	Dynamic Resource Allocation Control
DSCH	Downlink Shared Channel
DTCH	Dedicated Traffic Channel
FACH	Forward Access Channel
FDD	Frequency Division Duplex
FFS	For Further Study
GC-SAP	General Control SAP
HCS	Hierarchical Cell Structure
HFN	Hyper Frame Number
ID	Identifier
IDNNS	Intra Domain NAS Node Selector
IETF	Internet Engineering Task Force
IMEI	International Mobile Equipment Identity
IMSI	International Mobile Subscriber Identity
IE	Information element
IP	Internet Protocol
ISCP	Interference on Signal Code Power
LAI	Location Area Identity
L1	Layer 1
L2	Layer 2
L3	Layer 3
MD	Mandatory default
MP	Mandatory present
MAC	Media Access Control
MCC	Mobile Country Code
MM	Mobility Management
MNC	Mobile Network Code
NAS	Non Access Stratum
Nt-SAP	Notification SAP

NW	Network
OP	Optional
PCCH	Paging Control Channel
PCH	Paging Channel
PDCP	Packet Data Convergence Protocol
PDSCH	Physical Downlink Shared Channel
PDU	Protocol Data Unit
PLMN	Public Land Mobile Network
PNFE	Paging and Notification Control Functional Entity
PRACH	Physical Random Access CHannel
P-TMSI	Packet Temporary Mobile Subscriber Identity
PUSCH	Physical Uplink Shared Channel
QoS	Quality of Service
RAB	Radio access bearer
RAT	Radio Access Technology
RAI	Routing Area Identity
RACH	Random Access CHannel
RB	Radio Bearer
RFE	Routing Functional Entity
RL	Radio Link
RLC	Radio Link Control
RNTI	Radio Network Temporary Identifier
RNC	Radio Network Controller
RRC	Radio Resource Control
RSCP	Received Signal Code Power
RSSI	Received Signal Strength Indicator
SAP	Service Access Point
SCFE	Shared Control Function Entity
<u>SCTD</u>	<u>Space Code Transmit Diversity</u>
SF	Spreading Factor
SHCCH	Shared Control Channel
SIR	Signal to Interference Ratio
SSDT	Site Selection Diversity Transmission
S-RNTI	SRNC - RNTI
TDD	Time Division Duplex
TF	Transport Format
TFCS	Transport Format Combination Set
TFS	Transport Format Set
TM	Transparent Mode
TME	Transfer Mode Entity
TMSI	Temporary Mobile Subscriber Identity
Tr	Transparent
Tx	Transmission
UE	User Equipment
UL	Uplink
UM	Unacknowledged Mode
URA	UTRAN Registration Area
U-RNTI	UTRAN-RNTI
USCH	Uplink Shared Channel
UTRAN	Universal Terrestrial Radio Access Network

10.3.6.7 SCTD~~Block-STTD~~-indicator

NOTE: Only for TDD

Information Element/Group name	Need	Multi	Type and reference	Semantics description
<u>SCTD</u> Block-<u>STTD</u> -indicator	MP		Boolean	TRUE indicates that <u>SCTD</u> block-<u>STTD</u> is used

10.3.6.57 Primary CCPCH info

Information Element/Group name	Need	Multi	Type and reference	Semantics description
CHOICE <i>mode</i>	MP			
>FDD				
>>TX Diversity indicator	MP		Boolean	
>TDD				
>>CHOICE <i>SyncCase</i>	OP			
>>>Sync Case 1				
>>>>Timeslot	MP		Integer (0...14)	PCCPCH timeslot
>>>Sync Case 2				
>>>>Timeslot	MP		Integer(0..6)	
>>Cell parameters ID	OP		Cell parameters Id 10.3.6.9	The Cell parameters ID is described in [32].
>> SCTD Block STTD indicator	MP		SCTD Block STTD indicator 10.3.6.7	

10.3.6.58 Primary CCPCH info post

NOTE: Only for TDD

Information Element/Group name	Need	Multi	Type and reference	Semantics description
CHOICE <i>SyncCase</i>	MP			
>Sync Case 1				
>>Timeslot	MP		Integer (0...14)	PCCPCH timeslot
>Sync Case 2				
>>Timeslot	MP		Integer(0..6)	
Cell parameters ID	MP		Cell parameters Id 10.3.6.9	The Cell parameters ID is described in [32].
SCTD Block STTD -indicator	MP		SCTD Block STTD indicator 10.3.6.7	

11.3 Information element definitions

<pre> PrimaryCCPCH-Info ::= fdd tx-DiversityIndicator }, tdd syncCase syncCase1 timeslot }, syncCase2 timeslotSync2 } cellParametersID sctdblockSTTD-Indicator } } </pre>	<pre> CHOICE { SEQUENCE { BOOLEAN } SEQUENCE { CHOICE { SEQUENCE { TimeslotNumber } SEQUENCE { TimeslotSync2 } } CellParametersID BOOLEAN } } </pre>	<pre> OPTIONAL, OPTIONAL, </pre>
<pre> PrimaryCCPCH-InfoPost ::= syncCase syncCase1 timeslot }, syncCase2 timeslotSync2 }, cellParametersID sctdblockSTTD-Indicator } </pre>	<pre> SEQUENCE { CHOICE { SEQUENCE { TimeslotNumber } SEQUENCE { TimeslotSync2 } } CellParametersID, BOOLEAN } </pre>	

CHANGE REQUEST

⌘ **25.331 CR 1090** ⌘ rev **-** ⌘ Current version: **4.2.1** ⌘

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

Proposed change affects: ⌘ (U)SIM ME/UE Radio Access Network Core Network

Title:	⌘ Removal of Block SSTD		
Source:	⌘ TSG-RAN WG2		
Work item code:	⌘ TEI	Date:	⌘ November 19, 2001
Category:	⌘ A	Release:	⌘ REL-4
	<i>Use one of the following categories:</i> 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.		<i>Use one of the following releases:</i> 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)

Reason for change:	⌘ The Block STTD is no longer applied it was replaced by Space Code Transmit Diversity (SCTD).
Summary of change:	⌘ References to Block STTD are removed and replaced by SCTD.
Consequences if not approved:	⌘ Incorrect information in the specification, inconsistencies between specifications. Isolated impact analysis: The signaling is not affected.

Clauses affected:	⌘ 3.2, 10.3.6.7, 10.3.6.57, 10.3.6.58, 11.3		
Other specs affected:	⌘ <input checked="" type="checkbox"/> Other core specifications <input type="checkbox"/> Test specifications <input type="checkbox"/> O&M Specifications	⌘	25.221, 25.224, 25.225, 25.102 25.331 v3.8.0, CR 1089 WG3 - 25.423 CR 490(R99) and 491(R4) WG3 - 25.433 CR 549(R99) and 550(R4)
Other comments:	⌘		

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3.2 Abbreviations

For the purposes of the present document, the following abbreviations apply:

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AM	Acknowledged Mode
AS	Access Stratum
ASC	Access Service Class
ASN.1	Abstract Syntax Notation.1
BCCH	Broadcast Control Channel
BCFE	Broadcast Control Functional Entity
BER	Bit Error Rate
BLER	Block Error Rate
BSS	Base Station Sub-system
CH	Conditional on history
CV	Conditional on value
CCPCH	Common Control Physical CHannel
CCCH	Common Control Channel
CN	Core Network
CM	Connection Management
CPCH	Common Packet CHannel
C-RNTI	Cell RNTI
CTCH	Common Traffic CHannel
CTFC	Calculated Transport Format Combination
DCA	Dynamic Channel Allocation
DCCH	Dedicated Control Channel
DCFE	Dedicated Control Functional Entity
DCH	Dedicated Channel
DC-SAP	Dedicated Control SAP
DGPS	Differential Global Positioning System
DL	Downlink
DRAC	Dynamic Resource Allocation Control
DSCH	Downlink Shared Channel
DTCH	Dedicated Traffic Channel
FACH	Forward Access Channel
FDD	Frequency Division Duplex
FFS	For Further Study
GC-SAP	General Control SAP
HCS	Hierarchical Cell Structure
HFN	Hyper Frame Number
ID	Identifier
IDNNS	Intra Domain NAS Node Selector
IETF	Internet Engineering Task Force
IMEI	International Mobile Equipment Identity
IMSI	International Mobile Subscriber Identity
IE	Information element
IP	Internet Protocol
ISCP	Interference on Signal Code Power
LAI	Location Area Identity
L1	Layer 1
L2	Layer 2
L3	Layer 3
MD	Mandatory default
MP	Mandatory present
MAC	Media Access Control
MCC	Mobile Country Code

MM	Mobility Management
MNC	Mobile Network Code
NAS	Non Access Stratum
Nt-SAP	Notification SAP
NW	Network
OP	Optional
PCCH	Paging Control Channel
PCH	Paging Channel
PDCP	Packet Data Convergence Protocol
PDSCH	Physical Downlink Shared Channel
PDU	Protocol Data Unit
PLMN	Public Land Mobile Network
PNFE	Paging and Notification Control Functional Entity
PRACH	Physical Random Access CHannel
P-TMSI	Packet Temporary Mobile Subscriber Identity
PUSCH	Physical Uplink Shared Channel
QoS	Quality of Service
RAB	Radio access bearer
RAT	Radio Access Technology
RAI	Routing Area Identity
RACH	Random Access CHannel
RB	Radio Bearer
RFE	Routing Functional Entity
RL	Radio Link
RLC	Radio Link Control
RNTI	Radio Network Temporary Identifier
RNC	Radio Network Controller
RRC	Radio Resource Control
RSCP	Received Signal Code Power
RSSI	Received Signal Strength Indicator
SAP	Service Access Point
SCFE	Shared Control Function Entity
<u>SCTD</u>	<u>Space Code Transmit Diversity</u>
SF	Spreading Factor
SHCCH	Shared Control Channel
SIR	Signal to Interference Ratio
SSDT	Site Selection Diversity Transmission
S-RNTI	SRNC - RNTI
TDD	Time Division Duplex
TF	Transport Format
TFCS	Transport Format Combination Set
TFS	Transport Format Set
TM	Transparent Mode
TME	Transfer Mode Entity
TMSI	Temporary Mobile Subscriber Identity
Tr	Transparent
Tx	Transmission
UE	User Equipment
UL	Uplink
UM	Unacknowledged Mode
URA	UTRAN Registration Area
U-RNTI	UTRAN-RNTI
USCH	Uplink Shared Channel
UTRAN	Universal Terrestrial Radio Access Network

10.3.6.7 SCTD ~~Block STTD~~ indicator

NOTE: Only for TDD

Information Element/Group name	Need	Multi	Type and reference	Semantics description
<u>SCTD</u> Block STTD indicator	MP		Boolean	TRUE indicates that <u>SCTD</u> block STTD is used

10.3.6.57 Primary CCPCH info

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
CHOICE <i>mode</i>	MP				
>FDD					
>>TX Diversity indicator	MP		Boolean		
>TDD					
>>CHOICE <i>TDD option</i>	MP				REL-4
>>>3.84 Mcps TDD					REL-4
>>>>CHOICE <i>SyncCase</i>	OP				
>>>>>Sync Case 1					
>>>>>>Timeslot	MP		Integer (0..14)	PCCPCH timeslot	
>>>>>>Sync Case 2					
>>>>>>>Timeslot	MP		Integer(0..6)		
>>>1.28 Mcps TDD					REL-4
>>>>TSTD indicator	MP		TSTD indicator 10.3.6.85a		REL-4
>>Cell parameters ID	OP		Cell parameters Id 10.3.6.9	The Cell parameters ID is described in [32].	
>> Block STTD <u>SCTD</u> indicator	MP		Block STTD <u>SCTD</u> indicator 10.3.6.7		

10.3.6.58 Primary CCPCH info post

NOTE: Only for TDD

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
CHOICE <i>TDD option</i>	MP				REL-4
>3.84 Mcps TDD					REL-4
>>CHOICE <i>SyncCase</i>	MP				
>>>Sync Case 1					
>>>>Timeslot	MP		Integer (0..14)	PCCPCH timeslot	
>>>>Sync Case 2					
>>>>Timeslot	MP		Integer(0..6)		
>1.28 Mcps TDD					REL-4
>>TSTD indicator	MP		TSTD indicator 10.3.6.85a		REL-4
Cell parameters ID	MP		Cell parameters Id 10.3.6.9	The Cell parameters ID is described in [32].	
SCTDBlock STTD indicator	MP		SCTDBlock STTD indicator 10.3.6.7		

11.3 Information element definitions

```

PrimaryCCPCH-Info ::=
    fdd
        tx-DiversityIndicator
    },
    tdd
        -- syncCase should be absent for 1.28Mcps TDD mode
        syncCase
            CHOICE {
                syncCase1
                    timeslot
                },
                syncCase2
                    timeslotSync2
            }
        }
    cellParametersID
    sctdBlocksttd-Indicator
}

```

CHOICE {
 SEQUENCE {
 BOOLEAN
 },
 SEQUENCE {
 CHOICE {
 SEQUENCE {
 TimeslotNumber
 },
 SEQUENCE {
 TimeslotSync2
 }
 }
 CellParametersID
 BOOLEAN
 },
 OPTIONAL,
 OPTIONAL,
 }

```

PrimaryCCPCH-InfoPost ::=
    syncCase
        CHOICE {
            syncCase1
                timeslot
            },

```

```
        syncCase2                SEQUENCE {
            timeslotSync2          TimeslotSync2
        }
    },
    cellParametersID              CellParametersID,
    sctdBlockSTP-Indicator       BOOLEAN
}
}
```

3GPP TSG-RAN WG2 Meeting #25
Makuhari, Japan, 26 - 30 November 2001

Tdoc R2-012486

CR-Form-v4
CHANGE REQUEST
⌘ 25.331 CR 1097 ⌘ ev - ⌘ Current version: 3.8.0 ⌘

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

Proposed change affects: ⌘ (U)SIM ME/UE Radio Access Network Core Network

Title:	⌘ COUNT-C-SFN frame difference measurement		
Source:	⌘ TSG-RAN WG2		
Work item code:	⌘ TEI	Date:	⌘ 20 Nov 2001
Category:	⌘ F	Release:	⌘ R99
	Use <u>one</u> 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 <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)

Reason for change:	⌘ It is currently not specified how the UE should measure "COUNT-C-SFN frame difference" in case there are RLC Transparent Mode COUNT-Cs in both CN domains.
Summary of change:	⌘ It is specified that in case there are RLC Transparent Mode COUNT-Cs in both CN domains, COUNT-C of CS domain shall be used in this measurement.
Consequences if not approved:	⌘ Ambiguous UE behaviour when measuring "COUNT-C-SFN frame difference". The CR has isolated impact <ul style="list-style-type: none"> • Correction to a function where the specification was : <ul style="list-style-type: none"> ○ ambiguous or not sufficiently explicit. Would not affect implementations behaving like indicated in the CR, would affect implementations supporting the corrected functionality otherwise.

Clauses affected:	⌘ 8.6.7.7		
Other specs affected:	⌘ <input type="checkbox"/> Other core specifications <input type="checkbox"/> Test specifications <input type="checkbox"/> O&M Specifications	⌘	25.331 v4.2.1, CR 1098
Other comments:	⌘		

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Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.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.

8.6.7.7 Cell Reporting Quantities

If the IE "Cell Reporting Quantities" is received by the UE, the UE shall store the content of the IE "Cell Reporting Quantities" to the variable MEASUREMENT_IDENTITY.

The UE shall include measured results in MEASUREMENT REPORT as specified in the IE "Cell Reporting Quantities", except for the following cases:

If the IE "Cell Identity" is set to TRUE, the UE shall in this version of the specification:

- treat the IE as if the IE "Cell Identity" is set to FALSE.

If the IE "Cell synchronisation information reporting indicator" is set to TRUE, the UE shall:

- include the IE "Cell synchronisation information" in MEASUREMENT REPORT as specified in the IE "Cell Reporting Quantities":
 - if the measurement is performed on another frequency; or
 - if the IE "Read SFN indicator" included in the IE "Cell info" of the measured cell is set to FALSE:
 - the UE may omit the information group "COUNT-C-SFN frame difference" in the IE "Cell synchronisation information";
 - if the measurement is performed on the same frequency and no RLC Transparent Mode COUNT-C exists in the UE:
 - set the IE "COUNT-C-SFN high" to 0.
 - otherwise:
 - include the information group "COUNT-C-SFN frame difference". If RLC Transparent Mode COUNT-Cs exist in both CN domains, the COUNT-C of CS domain shall be used in this measurement.

If the IE "Proposed TGSN Reporting required" is set to TRUE, the UE shall:

- if compressed mode was used to monitor a TDD cell and the variable TGSN_REPORTED is set to FALSE:
 - report the IE "Proposed TGSN" indicating the TGSN that suits best to the measured cell;
 - set the variable TGSN_REPORTED to TRUE.
- otherwise
 - omit the IE "Proposed TGSN".

If the IE "SFN-SFN observed time difference reporting indicator" is set to "type 1" and the IE "Read SFN indicator" included in the IE "Cell info" of the measured cell is set to FALSE, the UE shall:

- set the SFN-SFN observed time difference type 1 for that cell to a value in the range (0..38399) (i.e. the UE shall assume that the SFN of the measured cell differs less than a frame with respect to the reference cell).

3GPP TSG-RAN WG2 Meeting #25
Makuhari, Japan, 26 - 30 November 2001

Tdoc R2-012671

CR-Form-v4
CHANGE REQUEST
⌘ 25.331 CR 1098 ⌘ ev - ⌘ Current version: 4.2.1 ⌘

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

Proposed change affects: ⌘ (U)SIM ME/UE Radio Access Network Core Network

Title:	⌘ COUNT-C-SFN frame difference measurement		
Source:	⌘ TSG-RAN WG2		
Work item code:	⌘ TEI	Date:	⌘ 20 Nov 2001
Category:	⌘ A	Release:	⌘ REL-4
	Use <u>one</u> 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 <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)

Reason for change:	⌘ It is currently not specified how the UE should measure "COUNT-C-SFN frame difference" in case there are RLC Transparent Mode COUNT-Cs in both CN domains.
Summary of change:	⌘ It is specified that in case there are RLC Transparent Mode COUNT-Cs in both CN domains, COUNT-C of CS domain shall be used in this measurement.
Consequences if not approved:	⌘ Ambiguous UE behaviour when measuring "COUNT-C-SFN frame difference".

Clauses affected:	⌘ 8.6.7.7		
Other specs affected:	⌘ <input type="checkbox"/> Other core specifications ⌘ <input type="checkbox"/> Test specifications ⌘ <input type="checkbox"/> O&M Specifications	⌘ 25.331 v3.8.0, CR 1097	
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/3G_Specs/CRs.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.

8.6.7.7 Cell Reporting Quantities

If the IE "Cell Reporting Quantities" is received by the UE, the UE shall store the content of the IE "Cell Reporting Quantities" to the variable MEASUREMENT_IDENTITY.

The UE shall include measured results in MEASUREMENT REPORT as specified in the IE "Cell Reporting Quantities", except for the following cases:

If the IE "Cell Identity" is set to TRUE, the UE shall in this version of the specification:

- treat the IE as if the IE "Cell Identity" is set to FALSE.

If the IE "Cell synchronisation information reporting indicator" is set to TRUE, the UE shall:

- include the IE "Cell synchronisation information" in MEASUREMENT REPORT as specified in the IE "Cell Reporting Quantities":
 - if the measurement is performed on another frequency; or
 - if the IE "Read SFN indicator" included in the IE "Cell info" of the measured cell is set to FALSE:
 - the UE may omit the information group "COUNT-C-SFN frame difference" in the IE "Cell synchronisation information";
 - if the measurement is performed on the same frequency and no RLC Transparent Mode COUNT-C exists in the UE:
 - set the IE "COUNT-C-SFN high" to 0.
 - otherwise:
 - include the information group "COUNT-C-SFN frame difference". If RLC Transparent Mode COUNT-Cs exist in both CN domains, the COUNT-C of CS domain shall be used in this measurement.

If the IE "Proposed TGSN Reporting required" is set to TRUE, the UE shall:

- if compressed mode was used to monitor a TDD cell and the variable TGSN_REPORTED is set to FALSE:
 - report the IE "Proposed TGSN" indicating the TGSN that suits best to the measured cell;
 - set the variable TGSN_REPORTED to TRUE.
- otherwise
 - omit the IE "Proposed TGSN".

If the IE "SFN-SFN observed time difference reporting indicator" is set to "type 1" and the IE "Read SFN indicator" included in the IE "Cell info" of the measured cell is set to FALSE, the UE shall:

- set the SFN-SFN observed time difference type 1 for that cell to a value in the range (0..38399) (i.e. the UE shall assume that the SFN of the measured cell differs less than a frame with respect to the reference cell).

3GPP TSG-RAN WG2 Meeting #25
Makuhari, Japan, 26 - 30 November 2001

Tdoc R2-012672

CR-Form-v4
CHANGE REQUEST
⌘ 25.331 CR 1099 ⌘ ev r1 ⌘ Current version: 3.8.0 ⌘

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

Proposed change affects: ⌘ (U)SIM ME/UE Radio Access Network Core Network

Title:	⌘ Trigger for deletion of ciphering and integrity keys		
Source:	⌘ TSG-RAN WG2		
Work item code:	⌘ TEI	Date:	⌘ 20 Nov 2001
Category:	⌘ F	Release:	⌘ R99
	Use <u>one</u> 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 <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)

Reason for change:	⌘ Inconsistency with 33.102 where it is specified that CK and IK are deleted in the UE when START reaches THRESHOLD. In 25.331 it is required that START is greater than THRESHOLD before CK and IK are deleted. One problem occurs in the case of UE with a SIM inserted. It is specified in 33.102 Ch.6.8.2.4 that the UE shall then use THRESHOLD default value of all ones . In this case START could never be greater than THRESHOLD and according to 25.331 the UE would never delete its CK and IK.
Summary of change:	⌘ ">" changed to "≥". In Revision 1 only coveragepage is corrected.
Consequences if not approved:	⌘ Misalignment with 33.102, UE with a SIM inserted would never delete its CK and IK. The CR has isolated impact <ul style="list-style-type: none"> • Correction to a function where the specifications were : <ul style="list-style-type: none"> ○ Containing some contradictions. Would not affect implementations behaving like indicated in the CR, would affect implementations supporting the corrected functionality otherwise.

Clauses affected:	⌘ 8.3.7.4, 8.5.2		
Other specs affected:	⌘ <input type="checkbox"/> Other core specifications ⌘ <input type="checkbox"/> Test specifications ⌘ <input type="checkbox"/> O&M Specifications	⌘ 25.331 v4.2.1, CR 1100	
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/3G_Specs/CRs.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.

8.3.7.4 Successful completion of the inter-RAT handover

Upon successfully completing the handover, UTRAN should:

- release the radio connection; and
- remove all context information for the concerned UE.

Upon successfully completing the handover, the UE shall:

- if the USIM is present:
 - store the current START value for every CN domain in the USIM [50];
 - if the "START" stored in the USIM [50] for a CN domain is greater than or equal to the value "THRESHOLD" of the variable START_THRESHOLD:
 - delete the ciphering and integrity keys that are stored in the USIM for that CN domain;
 - inform the deletion of these keys to upper layers;
- clear or set variables upon leaving UTRA RRC connected mode as specified in subclause 13.4.

NOTE: The release of the UMTS radio resources is initiated from the target RAT.

8.5.2 Actions when entering idle mode from connected mode

When entering idle mode from connected mode, the UE shall:

- clear or set variables upon leaving UTRA RRC connected mode as specified in subclause 13.4;
- attempt to select a suitable cell to camp on.

When leaving connected mode according to [4], the UE shall:

- perform cell selection.

While camping on a cell, the UE shall:

- acquire system information according to the system information procedure in subclause 8.1;
- perform measurements according to the measurement control procedure specified in subclause 8.4; and
- if the UE is registered:
 - be prepared to receive paging messages according to the paging procedure in subclause 8.2.

If IE "PLMN identity" within variable SELECTED_PLMN has the value "GSM-MAP", the UE shall:

- delete any NAS system information received in connected mode;
- acquire the NAS system information in system information block type 1; and
- proceed according to subclause 8.6.1.2.

When entering idle mode, the UE shall:

- if the USIM is present:
 - store the current START value for every CN domain in the USIM [50];
- if the "START" stored in the USIM [50] for a CN domain is greater than or equal to the value "THRESHOLD" of the variable START_THRESHOLD:
 - delete the ciphering and integrity keys that are stored in the USIM for that CN domain;
 - inform the deletion of these keys to upper layers.

3GPP TSG-RAN WG2 Meeting #25
Makuhari, Japan, 26 - 30 November 2001

Tdoc R2-012673

CR-Form-v4
CHANGE REQUEST
⌘ 25.331 CR 1100 ⌘ ev - ⌘ Current version: 4.2.1 ⌘

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

Proposed change affects: ⌘ (U)SIM ME/UE Radio Access Network Core Network

Title:	⌘ Trigger for deletion of ciphering and integrity keys		
Source:	⌘ TSG-RAN WG2		
Work item code:	⌘ TEI	Date:	⌘ 20 Nov 2001
Category:	⌘ A	Release:	⌘ REL-4
	Use <u>one</u> 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 <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)

Reason for change:	⌘ Inconsistency with 33.102 where it is specified that CK and IK are deleted in the UE when START reaches THRESHOLD. In 25.331 it is required that START is greater than THRESHOLD before CK and IK are deleted. One problem occurs in the case of UE with a SIM inserted. It is specified in 33.102 Ch.6.8.2.4 that the UE shall then use THRESHOLD default value of all ones . In this case START could never be greater than THRESHOLD and according to 25.331 the UE would never delete its CK and IK.
Summary of change:	⌘ ">" changed to "≥".
Consequences if not approved:	⌘ Misalignment with 33.102, UE with a SIM inserted would never delete its CK and IK.

Clauses affected:	⌘ 8.3.7.4, 8.5.2		
Other specs affected:	⌘ <input type="checkbox"/> Other core specifications <input type="checkbox"/> Test specifications <input type="checkbox"/> O&M Specifications	⌘ 25.331 v3.8.0, CR 1099r1	
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/3G_Specs/CRs.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.

8.3.7.4 Successful completion of the inter-RAT handover

Upon successfully completing the handover, UTRAN should:

- release the radio connection; and
- remove all context information for the concerned UE.

Upon successfully completing the handover, the UE shall:

- if the USIM is present:
 - store the current START value for every CN domain in the USIM [50];
 - if the "START" stored in the USIM [50] for a CN domain is greater than or equal to the value "THRESHOLD" of the variable START_THRESHOLD:
 - delete the ciphering and integrity keys that are stored in the USIM for that CN domain;
 - inform the deletion of these keys to upper layers;
- clear or set variables upon leaving UTRA RRC connected mode as specified in subclause 13.4.

NOTE: The release of the UMTS radio resources is initiated from the target RAT.

8.5.2 Actions when entering idle mode from connected mode

When entering idle mode from connected mode, the UE shall:

- clear or set variables upon leaving UTRA RRC connected mode as specified in subclause 13.4;
- attempt to select a suitable cell to camp on.

When leaving connected mode according to [4], the UE shall:

- perform cell selection.

While camping on a cell, the UE shall:

- acquire system information according to the system information procedure in subclause 8.1;
- perform measurements according to the measurement control procedure specified in subclause 8.4; and
- if the UE is registered:
 - be prepared to receive paging messages according to the paging procedure in subclause 8.2.

If IE "PLMN identity" within variable SELECTED_PLMN has the value "GSM-MAP", the UE shall:

- delete any NAS system information received in connected mode;
- acquire the NAS system information in system information block type 1; and
- proceed according to subclause 8.6.1.2.

When entering idle mode, the UE shall:

- if the USIM is present:
 - store the current START value for every CN domain in the USIM [50];
- if the "START" stored in the USIM [50] for a CN domain is greater than or equal to the value "THRESHOLD" of the variable START_THRESHOLD:
 - delete the ciphering and integrity keys that are stored in the USIM for that CN domain;
 - inform the deletion of these keys to upper layers.

CR-Form-v4
<h2 style="margin: 0;">CHANGE REQUEST</h2>
⌘ 25.331 CR 1101 ⌘ ev r1 ⌘ Current version: 3.8.0 ⌘

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

Proposed change affects: ⌘ (U)SIM ME/UE Radio Access Network Core Network

Title:	⌘ Correction to P_compensation calculation for GSM neighbour cells		
Source:	⌘ TSG-RAN WG2		
Work item code:	⌘ TEI	Date:	⌘ 29. November 2001
Category:	⌘ F	Release:	⌘ R99
	Use <u>one</u> 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 <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)

Reason for change:	⌘ The IE "Maximum allowed UL TX power" in SIB11/12 is defined as being mandatory with default value. The value for the current serving cell shall be assumed as default value if the IE is not broadcasted for a certain neighbour cell. It was not taken into account that this parameter is also applied to GSM cells when calculating the value of P_compensation according to 25.304. For a GSM neighbour it is not feasible to assume the same default maximum UL TX power as for the serving FDD or TDD cells. The GSM power classes [defined in TS 05.05] differ from the power classes in UTRAN and the applicable output power for a certain GSM neighbour is not related to the allowed power for accessing the serving FDD or TDD cell.
Summary of change:	⌘ It is proposed to apply a different default value for GSM neighbours. The UE should assume that the maximum allowed TX power for a GSM cell is equal to the maximum UE output power applicable to the corresponding GSM frequency band. This ensures that the following is always true if no UE_TXPWR_MAX_RACH is provided: $P_compensation = \max(UE_TXPWR_MAX_RACH - P_MAX, 0) = 0$ The default value for FDD and TDD cells are not changed. Isolated Impact Analysis: Corrected functionality is the inter-RAT cell reselection from UTRAN. Correction would not affect implementations behaving like indicated in the CR, would affect implementations supporting the corrected functionality otherwise.
Consequences if not approved:	⌘ The UE would apply a wrong default value for the maximum allowed UL TX power to neighbouring GSM cells. Neighbouring GSM cells would falsely appear to be not suitable and the UE would not attempt to make a reselection to these

cells.	
Clauses affected:	⌘ 10.3.2.4
Other specs affected:	⌘ <input type="checkbox"/> Other core specifications
	<input type="checkbox"/> Test specifications
	<input type="checkbox"/> O&M Specifications
Other comments:	⌘

10.3.2.4 Cell selection and re-selection info for SIB11/12

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Qoffset1 _{s,n}	MD		Integer(-50..50)	Default value is 0. [dB]
Qoffset2 _{s,n}	CV-FDD-Quality-Measure		Integer(-50..50)	Default value is 0. [dB]
Maximum allowed UL TX power	MD		Maximum allowed UL TX power 10.3.6.39	[dBm]-According to UE_TXPWR_MAX_RACH in [4], [dBm]. If applied to FDD or TDD cells, the default is the Maximum allowed UL TX power for the serving cell. If applied to a GSM cell, the default is the UE maximum output power applicable for this GSM cell, according to the UE's radio access capability.
HCS neighbouring cell information	OP		HCS Neighbouring cell information 10.3.7.11	
CHOICE mode	MP			
>FDD				
>>Qqualmin	CV-FDD-Serving-Cell		Integer (-24..0)	Ec/N0, [dB] Default value is Qqualmin for the serving cell
>>Qrxlevmin	MD		Integer (-115..-25 by step of 2)	RSCP, [dBm] Default value is Qrxlevmin for the serving cell
>TDD				
>>Qrxlevmin	MD		Integer (-115..-25 by step of 2)	RSCP, [dBm] Default value is Qrxlevmin for the serving cell
>GSM				
>>Qrxlevmin	MD		Integer (-115..-25 by step of 2)	GSM RSSI, [dBm] Default value is Qrxlevmin for the serving cell

Condition	Explanation
FDD-Quality-Measure	This IE is mandatory and has a default value for Intra/Inter Frequency Cells if the IE "Cell_selection_and_reselection_quality_measure" has the value CPICH Ec/No. Otherwise the IE is optional
FDD-Serving-Cell	This IE is mandatory and has a default value if the serving cell is an FDD cell. Otherwise the IE is mandatory present.

CR-Form-v4
<h2 style="margin: 0;">CHANGE REQUEST</h2>
⌘ 25.331 CR 1102 ⌘ ev - ⌘ Current version: 4.2.1 ⌘

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

Proposed change affects: ⌘ (U)SIM ME/UE Radio Access Network Core Network

Title:	⌘ Correction to P_compensation calculation for GSM neighbour cells		
Source:	⌘ TSG-RAN WG2		
Work item code:	⌘ TEI	Date:	⌘ 29. November 2001
Category:	⌘ A	Release:	⌘ REL-4
	Use <u>one</u> 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 <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)

Reason for change: ⌘ The IE "Maximum allowed UL TX power" in SIB11/12 is defined as being mandatory with default value. The value for the current serving cell shall be assumed as default value if the IE is not broadcasted for a certain neighbour cell.

It was not taken into account that this parameter is also applied to GSM cells when calculating the value of P_compensation according to 25.304. For a GSM neighbour it is not feasible to assume the same default maximum UL TX power as for the serving FDD or TDD cells. The GSM power classes [defined in TS 05.05] differ from the power classes in UTRAN and the applicable output power for a certain GSM neighbour is not related to the allowed power for accessing the serving FDD or TDD cell.

Summary of change: ⌘ It is proposed to apply a different default value for GSM neighbours. The UE should assume that the maximum allowed TX power for a GSM cell is equal to the maximum UE output power applicable to the corresponding GSM frequency band. This ensures that the following is always true if no UE_TXPWR_MAX_RACH is provided:

$$P_compensation = \max(UE_TXPWR_MAX_RACH - P_MAX, 0) = 0$$

The default value for FDD and TDD cells are not changed.

Isolated Impact Analysis:

Corrected functionality is the inter-RAT cell reselection from UTRAN.

Correction would not affect implementations behaving like indicated in the CR, would affect implementations supporting the corrected functionality otherwise.

Consequences if not approved: ⌘ The UE would apply a wrong default value for the maximum allowed UL TX power to neighbouring GSM cells. Neighbouring GSM cells would falsely appear to be not suitable and the UE would not attempt to make a reselection to these

cells.	
Clauses affected:	⌘ 10.3.2.4
Other specs affected:	⌘ <input type="checkbox"/> Other core specifications
	<input type="checkbox"/> Test specifications
	<input type="checkbox"/> O&M Specifications
Other comments:	⌘

10.3.2.4 Cell selection and re-selection info for SIB11/12

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Qoffset1 _{s,n}	MD		Integer(-50..50)	Default value is 0. [dB]
Qoffset2 _{s,n}	CV-FDD-Quality-Measure		Integer(-50..50)	Default value is 0. [dB]
Maximum allowed UL TX power	MD		Maximum allowed UL TX power 10.3.6.39	[dBm] According to UE_TXPWR_MAX_RACH in [4], [dBm]. If applied to FDD or TDD cells, the default is the Maximum allowed UL TX power for the serving cell. If applied to a GSM cell, the default is the UE maximum output power applicable for this GSM cell, according to the UE's radio access capability.
HCS neighbouring cell information	OP		HCS Neighbouring cell information 10.3.7.11	
CHOICE mode	MP			
>FDD				
>>Qqualmin	CV-FDD-Serving-Cell		Integer (-24..0)	Ec/NO, [dB] Default value is Qqualmin for the serving cell
>>Qrxlevmin	MD		Integer (-115..-25 by step of 2)	RSCP, [dBm] Default value is Qrxlevmin for the serving cell
>TDD				
>>Qrxlevmin	MD		Integer (-115..-25 by step of 2)	RSCP, [dBm] Default value is Qrxlevmin for the serving cell
>GSM				
>>Qrxlevmin	MD		Integer (-115..-25 by step of 2)	GSM RSSI, [dBm] Default value is Qrxlevmin for the serving cell

Condition	Explanation
FDD-Quality-Measure	This IE is mandatory and has a default value for Intra/Inter Frequency Cells if the IE "Cell_selection_and_reselection_quality_measure" has the value CPICH Ec/No. Otherwise the IE is optional
FDD-Serving-Cell	This IE is mandatory and has a default value if the serving cell is an FDD cell. Otherwise the IE is mandatory present.

CHANGE REQUEST

⌘ **25.331 CR 1103** ⌘ ev **-** ⌘ Current version: **3.8.0** ⌘

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

Proposed change affects: ⌘ (U)SIM ME/UE Radio Access Network Core Network

Title:	⌘ Preconfigurations in case of equivalent PLMNs		
Source:	⌘ TSG-RAN WG2		
Work item code:	⌘ TEI	Date:	⌘ 20. Nov. 2001
Category:	⌘ F	Release:	⌘ R99
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)		2 (GSM Phase 2)
	A (corresponds to a correction in an earlier release)		R96 (Release 1996)
	B (addition of feature),		R97 (Release 1997)
	C (functional modification of feature)		R98 (Release 1998)
	D (editorial modification)		R99 (Release 1999)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		REL-4 (Release 4)
			REL-5 (Release 5)

Reason for change: ⌘ In order to use predefined configurations also in shared network environments it is required that operators co-ordinate the pre-configurations between their networks. Consequently, the UE should not deliberately delete already received pre-configurations when a new cell of a equivalent PLMN is selected but it should assume that they are also valid within the equivalent PLMN. While in GSM mode, the received pre-configurations can be used even if they were received from an equivalent PLMN.

Summary of change: ⌘ A new area scope *Equivalent PLMN* is introduced. While system information blocks with area scope *PLMN* are only valid within the PLMN where they were received, system information blocks with area scope *Equivalent PLMN* are also valid within equivalent PLMNs. They are not automatically deleted upon selection of a cell belonging to different PLMN. The UE will keep them if the new PLMN is indicated to be equivalent and continue to apply the usual update mechanism.

The area scope of SIB16 is changed from *PLMN* to *Equivalent PLMN*.

It is clarified that SIB16 remains valid upon transition to or from GSM/GPRS, otherwise preconfigurations which were read while in UTRAN could not be used for HO from GSM to UTRAN.

A note is added to clarify that the UE might read SIB16 also while connected to GSM/GPRS.

CELL_DCH is added to the RRC protocol states where SIB16 is valid, otherwise the UE would delete all received instances of SIB16 when entering CELL_DCH state. No preconfigurations would be available after a handover to GSM.

Isolated Impact Analysis:

Corrected functionality is the reception of predefined configurations.

	Would not affect implementations behaving like indicated in the CR, would affect implementations supporting the corrected functionality otherwise.													
Consequences if not approved:	⌘	Insufficient support for predefined configurations in shared networks. The UE could not use configurations which were received from an equivalent PLMN.												
Clauses affected:	⌘	8.1.1.1.2, 8.1.1.3, 8.1.1.5, 13.4.32												
Other specs affected:	⌘	<table border="1"> <tr> <td><input type="checkbox"/></td> <td>Other core specifications</td> <td>⌘</td> <td>25.331 v4.2.1, CR 1104</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Test specifications</td> <td></td> <td></td> </tr> <tr> <td><input type="checkbox"/></td> <td>O&M Specifications</td> <td></td> <td></td> </tr> </table>	<input type="checkbox"/>	Other core specifications	⌘	25.331 v4.2.1, CR 1104	<input type="checkbox"/>	Test specifications			<input type="checkbox"/>	O&M Specifications		
<input type="checkbox"/>	Other core specifications	⌘	25.331 v4.2.1, CR 1104											
<input type="checkbox"/>	Test specifications													
<input type="checkbox"/>	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/3G_Specs/CRs.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.

8.1.1.1.2 System information blocks

Table 8.1.1 specifies all system information blocks and their characteristics.

The *area scope column* in table 8.1.1 specifies the area where a system information block's value tag is valid. If the area scope is *cell*, the UE shall consider the system information block to be valid only in the cell in which it was read. If system information blocks have been previously stored for this cell, the UE shall check whether the value tag for the system information block in the entered cell is different compared to the stored value tag. If the area scope is *PLMN or Equivalent PLMN*, the UE shall check the value tag for the system information block when a new cell is selected. If the value tag for the system information block in the new cell is different compared to the value tag for the system information block stored in the UE, the UE shall re-read the system information block. If the area scope is PLMN, the UE shall consider the system information block to be valid only within the PLMN in which it was read. If the area scope is Equivalent PLMN, the UE shall consider the system information block to be valid within the PLMN in which it was received and all PLMNs which are indicated by higher layers to be equivalent.

For System information block types 15.2, 15.3 and 16, which may have multiple occurrences, each occurrence has its own independent value tag. The UE shall re-read a particular occurrence if the value tag of this occurrence has changed compared to that stored in the UE.

The *UE mode/state column when block is valid* in Table 8.1.1 specifies in which UE mode or UE state the IEs in a system information block shall be regarded as valid by the UE. In other words, the indicated system information block becomes invalid upon change to a mode/state that is not included in this column. System Information Block 16 remains also valid upon transition to or from GSM/GPRS. In some cases, the states are inserted in brackets to indicate that the validity is dependent on the broadcast of the associated System Information Blocks by the network as explained in the relevant procedure section.

The *UE mode/state column when block is read* in Table 8.1.1 specifies in which UE mode or UE state the IEs in a system information block may be read by the UE. The UE shall have the necessary information prior to execution of any procedure requiring information to be obtained from the appropriate system information block. The requirements on the UE in terms of when to read the system information may therefore be derived from the procedure specifications that specify which IEs are required in the different UE modes/states in conjunction with the different performance requirements that are specified. System Information Block type 10 shall only be read by the UE while in CELL_DCH.

NOTE: There are a number of system information blocks that include the same IEs while the UE mode/state in which the information is valid differs. This approach is intended to allow the use of different IE values in different UE mode/states.

NOTE: System information block 16 is also obtained by a UE while in GSM/GPRS. The details of this are not within the scope of this specification.

The *Scheduling information column* in Table 8.1.1 specifies the position and repetition period for the SIB.

The *modification of system information column* in Table 8.1.1 specifies the update mechanisms applicable for a certain system information block. For system information blocks with a value tag, the UE shall update the information according to subclause 8.1.1.7.1 or 8.1.1.7.2. For system information blocks with an expiration timer, the UE shall, when the timer expires, perform an update of the information according to subclause 8.1.1.7.4.

Table 8.1.1: Specification of system information block characteristics

System information block	Area scope	UE mode/state when block is valid	UE mode/state when block is read	Scheduling information	Modification of system information	Additional comment
Master information block	Cell	Idle mode, CELL_FACH, CELL_PCH, URA_PCH	Idle mode, CELL_FACH, CELL_PCH, URA_PCH	SIB_POS = 0 SIB_REP = 8 (FDD) SIB_REP = 8, 16, 32 (TDD) SIB_OFF=2	Value tag	
Scheduling block 1	Cell	Idle mode, CELL_FACH, CELL_PCH, URA_PCH	Idle mode, CELL_FACH, CELL_PCH, URA_PCH	Specified by the IE "Scheduling information" in MIB	Value tag	
Scheduling block 2	Cell	Idle mode, CELL_FACH, CELL_PCH, URA_PCH	Idle mode, CELL_FACH, CELL_PCH, URA_PCH	Specified by the IE "Scheduling information" in MIB	Value tag	
System information block type 1	PLMN	Idle mode, CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH	Idle, CELL_FACH, CELL_PCH, URA_PCH	Specified by the IE "Scheduling information"	Value tag	
System information block type 2	Cell	URA_PCH	URA_PCH	Specified by the IE "Scheduling information"	Value tag	
System information block type 3	Cell	Idle mode, (CELL_FACH, CELL_PCH, URA_PCH)	Idle mode, (CELL_FACH, CELL_PCH, URA_PCH)	Specified by the IE "Scheduling information"	Value tag	
System information block type 4	Cell	CELL_FACH, CELL_PCH, URA_PCH	CELL_FACH, CELL_PCH, URA_PCH	Specified by the IE "Scheduling information"	Value tag	If System information block type 4 is not broadcast in a cell, the connected mode UE shall apply information in System information block type 3 in connected mode.
System information block type 5	Cell	Idle mode, (CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH (TDD only))	Idle mode, (CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH (TDD only))	Specified by the IE "Scheduling information"	Value tag	

System information block type 6	Cell	CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH (TDD only)	CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH (TDD only)	Specified by the IE "Scheduling information"	Value tag	<p>If system information block type 6 is not broadcast in a cell, the connected mode UE shall read System information block type 5.</p> <p>If some of the optional IEs are not included in System information block type 6, the UE shall read the corresponding IEs in System information block type 5</p> <p>In TDD mode system information block 6 shall only be read in CELL_DCH if required for open loop power control as specified in subclause 8.5.7 and/or if shared transport channels are assigned to the UE. If in these cases system information block type 6 is not broadcast the UE shall read system information block type 5.</p>
System information block type 7	Cell	Idle mode, CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH (TDD only)	Idle mode, CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH (TDD only)	Specified by the IE "Scheduling information"	Expiration timer = MAX(320 ms,SIB_REP * ExpirationTimeFactor)	In TDD mode system information block type 7 shall only be read in CELL_DCH if shared transport channels are assigned to the UE.
System information block type 8	Cell	CELL_FACH, CELL_PCH, URA_PCH	CELL_FACH, CELL_PCH, URA_PCH	Specified by the IE "Scheduling information"	Value tag	
System information block type 9	Cell	CELL_FACH, CELL_PCH, URA_PCH	CELL_FACH, CELL_PCH, URA_PCH	Specified by the IE "Scheduling information"	Expiration timer = SIB_REP	
System information block type 10	Cell	CELL_DCH	CELL_DCH	Specified by the IE "Scheduling information"	Expiration timer = SIB_REP	
System information block type 11	Cell	Idle mode (CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH)	Idle mode (CELL_FACH, CELL_PCH, URA_PCH)	Specified by the IE "Scheduling information"	Value tag	

System information block type 12	Cell	CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH	CELL_FACH, CELL_PCH, URA_PCH	Specified by the IE "Scheduling information"	Value tag	If system information block type 12 is not broadcast in a cell, the connected mode UE shall read System information block type 11. If some of the optional IEs are not included in System information block type 12, the UE shall read the corresponding IEs in System information block type 11.
System information block type 13	Cell	Idle Mode, CELL_FACH, CELL_PCH, URA_PCH	Idle Mode, CELL_FACH, CELL_PCH, URA_PCH	Specified by the IE "Scheduling information"	Value tag	
System information block type 13.1	Cell	Idle Mode, CELL_FACH, CELL_PCH, URA_PCH	Idle Mode, CELL_FACH, CELL_PCH, URA_PCH	Specified by the IE "Scheduling information"	Value tag	
System information block type 13.2	Cell	Idle Mode, CELL_FACH, CELL_PCH, URA_PCH	Idle Mode, CELL_FACH, CELL_PCH, URA_PCH	Specified by the IE "Scheduling information"	Value tag	
System information block type 13.3	Cell	Idle Mode, CELL_FACH, CELL_PCH, URA_PCH	Idle Mode, CELL_FACH, CELL_PCH, URA_PCH	Specified by the IE "Scheduling information"	Value tag	
System information block type 13.4	Cell	Idle Mode, CELL_FACH, CELL_PCH, URA_PCH	Idle Mode, CELL_FACH, CELL_PCH, URA_PCH	Specified by the IE "Scheduling information"	Value tag	
System information block type 14	Cell	Idle Mode, CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH	Idle Mode, CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH	Specified by the IE "Scheduling information"	Expiration timer = MAX([320 ms], SIB_REP * ExpirationTimeFactor)	This system information block is used in TDD mode only. System information block type 14 shall only be read in CELL_DCH if required for open loop power control as specified in subclause 8.5.7.
System information block type 15	Cell	Idle Mode, CELL_FACH, CELL_PCH, URA_PCH	Idle Mode, CELL_FACH, CELL_PCH, URA_PCH	Specified by the IE "Scheduling information"	Value tag	
System information block type 15.1	Cell	Idle Mode, CELL_FACH, CELL_PCH, URA_PCH	Idle Mode, CELL_FACH, CELL_PCH, URA_PCH	Specified by the IE "Scheduling information"	Value tag	
System information block type 15.2	Cell	Idle Mode, CELL_FACH, CELL_PCH, URA_PCH	Idle Mode, CELL_FACH, CELL_PCH, URA_PCH	Specified by the IE "Scheduling information"	Value tag	For this system information block there may be multiple occurrences
System information block type 15.3	PLMN	Idle Mode, CELL_FACH, CELL_PCH, URA_PCH	Idle Mode, CELL_FACH, CELL_PCH, URA_PCH	Specified by the IE "Scheduling information"	Value tag	For this system information block there may be multiple occurrences
System information block type 15.4	Cell	Idle Mode, CELL_FACH, CELL_PCH, URA_PCH	Idle Mode, CELL_FACH, CELL_PCH, URA_PCH	Specified by the IE "Scheduling information"	Value tag	

System information block type 16	<u>Equivalent PLMN</u>	Idle Mode, CELL_FACH, CELL_PCH, URA_PCH, <u>CELL_DCH</u>	Idle Mode, CELL_FACH, CELL_PCH, URA_PCH	Specified by the IE "Scheduling information"	Value tag	For this system information block there may be multiple occurrences. <u>This system information block is also valid while in GSM/GPRS.</u>
System information block type 17	Cell	CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH	CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH	Specified by the IE "Scheduling information"	Expiration timer = SIB_REP	This system information block is used in TDD mode only. System information block type 17 shall only be read if shared transport channels are assigned to the UE.
System Information Block type 18	Cell	Idle mode, CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH	Idle mode, CELL_FACH, CELL_PCH, URA_PCH	Specified by the IE "Scheduling information"	Value tag	

The UE shall acquire all system information blocks except system information block type 10 on BCH. System Information Block type 10 shall be acquired on the FACH and only by UEs with support for simultaneous reception of one SCCPCH and one DPCH. If System Information Block type 10 is not broadcast in a cell, the DRAC procedures do not apply in this cell. System Information Block type 10 is used in FDD mode only.

8.1.1.3 Reception of SYSTEM INFORMATION messages by the UE

The UE shall read SYSTEM INFORMATION messages broadcast on a BCH transport channel in idle mode and in the connected mode in states CELL_FACH, CELL_PCH, URA_PCH and CELL_DCH (TDD only). In addition, UEs in FDD mode which support simultaneous reception of one SCCPCH and one DPCH shall read system information on a FACH transport channel when in CELL_DCH state.

In idle mode and connected mode different combinations of system information blocks are valid. The UE shall acquire the system information blocks that are needed according to Table 8.1.1.

The UE may store system information blocks with ~~cell or PLMN~~ cell, PLMN or Equivalent PLMN area scope (including their value tag if applicable) for different cells and different PLMNs, to be used if the UE returns to these cells.

The UE shall consider all stored system information blocks as invalid after it has been switched off. Some information obtained from system information may be stored by the UE or in the USIM for use in a stored information cell selection.

When selecting a new cell within the currently used PLMN, the UE shall consider all current system information blocks with area scope cell to be invalid. If the UE has stored valid system information blocks for the newly selected cell, the UE may set those as current system information blocks.

After selecting a new PLMN, the UE shall consider all current system information blocks with area scope cell and PLMN to be invalid. If the UE has previously stored valid system information blocks for the selected cell of the new PLMN, the UE may set those as current system information blocks. Upon selection of a new PLMN the UE shall store all information elements specified within variable SELECTED_PLMN for the new PLMN within this variable.

After selecting a new PLMN which is not indicated by higher layers to be equivalent to the identity of the previously selected PLMN, the UE shall consider all system information blocks with area scope Equivalent PLMN to be invalid.

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:

- if the "PLMN type" in the variable SELECTED_PLMN has the value "GSM-MAP" and the IE "PLMN Type" has the value "GSM-MAP" or "GSM-MAP and ANSI-41":
 - check the IE "PLMN identity" in the master information block and verify that it is the selected PLMN, stored as "PLMN identity" in the variable SELECTED_PLMN;
- 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":
 - store the ANSI-41 Information elements contained in the master information block and perform initial process for ANSI-41;
- 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;
- if the value tags differ, or if no IEs for the master information block are stored:
 - store the value tag into the variable VALUE_TAG for the master information block;
 - read and store scheduling information included in the master information block;
- 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:

- for all system information blocks with area scope "PLMN" or "Equivalent PLMN" that use value tags:
 - 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;
 - if the value tags differ, or if no IEs for the corresponding system information block are stored:
 - store the value tag read in scheduling information for that system information block into the variable VALUE_TAG;
 - read and store the IEs of that system information block;
 - 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;
- for all system information blocks or scheduling blocks with area scope cell that use value tags:
 - 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;
 - if the value tags differ, or if no IEs for the corresponding system information block or scheduling block are stored:
 - store the value tag read in scheduling information for that system information block or scheduling block into the variable VALUE_TAG;
 - read and store the IEs of that system information block or scheduling block;

- 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;
- for system information blocks which may have multiple occurrences:
 - 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;
 - 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:
 - 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;
 - read and store the IEs of that system information block;
 - 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:

- skip reading this system information block;
- skip monitoring changes to this system information block.

If the UE:

- receives a scheduling block at a position different from its position according to the scheduling information for the scheduling block; or
- receives a scheduling block for which scheduling information has not been received:

the UE may:

- store the content of the scheduling block with a value tag set to the value NULL; and
- 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:

- read the scheduling information for this scheduling block.

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

$$\text{SFN mod } 32 = 0$$

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

- consider the master information block as not found; and
- consider the cell to be barred according to [4]; and
- 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:

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

- 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:

- 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:

- 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:

- consider the cell to be barred according to [4]; and
- 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:

- consider the cell to be barred according to [4]; and
- 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 System Information Block type 5 is not scheduled on BCH or System Information Block type 5 is scheduled but IE "AICH info" (FDD) or IE "PICH info" is not present, the UE shall:

- consider the cell to be barred according to [4]; and
- 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 5 is not scheduled on BCH, and System Information Block type 6 is not scheduled on BCH, or any of System Information Block type 5 or type 6 is scheduled but IE "AICH info" (FDD) or IE "PICH info" is not present, the UE shall:

- consider the cell to be barred according to [4]; and
- 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:

- consider the cell to be barred according to [4]; and
- 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 TDD, if System Information Block type 14 is not scheduled on BCH, the UE shall:

- consider the cell to be barred according to [4]; and
- 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} ".

13.4.32 VALUE_TAG

This variable contains information about the value tag for the last received system information block of a given type, for all system information blocks using value tags. The UE shall maintain one instance of this variable for the current selected cell. The UE may store several instances of this variable, one for each cell, to be used if the UE returns to these cells.

All IEs in this variable shall be cleared when switched off. All IEs in this variable except for the IE "SIB 16 value tag list" shall be cleared ~~and as well as~~ at selection of a new PLMN. The IE "SIB 16 value tag list" is cleared at selection of a new PLMN which is not indicated by higher layers to be equivalent to the previously selected PLMN.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
MIB value tag	OP		MIB value tag 10.3.8.9	Value tag for the master information block
SB 1 value tag	OP		Cell value tag 10.3.8.4	Value tag for the scheduling block type 1
SB 2 value tag	OP		Cell value tag 10.3.8.4	Value tag for the scheduling block type 2
SIB 1 value tag	CV-GSM		PLMN value tag 10.3.8.10	Value tag for the system information block type 1
SIB 2 value tag	OP		Cell value tag 10.3.8.4	Value tag for the system information block type 2
SIB 3 value tag	OP		Cell value tag 10.3.8.4	Value tag for the system information block type 3
SIB 4 value tag	OP		Cell value tag 10.3.8.4	Value tag for the system information block type 4
SIB 5 value tag	OP		Cell value tag 10.3.8.4	Value tag for the system information block type 5
SIB 6 value tag	OP		Cell value tag 10.3.8.4	Value tag for the system information block type 6
CHOICE mode	MP			
>FDD				
>>SIB 8 value tag	OP		Cell value tag 10.3.8.4	Value tag for the system information block type 8
>TDD				(no data)
SIB 11 value tag	OP		Cell value tag 10.3.8.4	Value tag for the system information block type 11
SIB 12 value tag	OP		Cell value tag 10.3.8.4	Value tag for the system information block type 12
SIB 13 value tag	CV-ANSI		Cell value tag 10.3.8.4	Value tag for the system information block type 13
SIB 13.1 value tag	CV-ANSI		Cell value tag 10.3.8.4	Value tag for the system information block type 13.1
SIB 13.2 value tag	CV-ANSI		Cell value tag 10.3.8.4	Value tag for the system information block type 13.2
SIB 13.3 value tag	CV-ANSI		Cell value tag 10.3.8.4	Value tag for the system information block type 13.3
SIB 13.4 value tag	CV-ANSI		Cell value tag 10.3.8.4	Value tag for the system information block type 13.4
SIB 15 value tag	OP		Cell value tag 10.3.8.4	Value tag for the system information block type 15
SIB 15.1 value tag	OP		Cell value tag 10.3.8.4	Value tag for the system information block type 15.1
SIB 15.2 value tag list	OP	1 to <maxSat>		List of value tags for all stored occurrences of system information block type 15.2
>SIB 15.2 value tag	MP		Cell value tag 10.3.8.4	
>SIB occurrence identity and value tag	MP		SIB occurrence identity and value tag 10.3.8.20b	
SIB 15.3 value tag list	OP	1 to <maxSat>		List of value tags for all stored occurrences of system information block type 15.3
>SIB 15.3 value tag	MP		PLMN value tag 10.3.8.10	Value tag for the system information block type 15.3
>SIB occurrence identity and value tag	MP		SIB occurrence identity and value tag 10.3.8.20b	
SIB 15.4 value tag	OP		Cell value tag 10.3.8.4	Value tag for the system information block type 15.4
SIB 16 value tag list	OP	1 to <maxPred		List of value tags for all stored occurrences of the system

		efConfig>		information block type 16
>Predefined configuration identity and value tag	MP		Predefined configuration identity and value tag 10.3.8.11	
SIB 18 value tag	OP		Cell value tag 10.3.8.4	Value tag for the system information block type 18

Condition	Explanation
<i>GSM</i>	This information is optional when the PLMN Type in the variable SELECTED_PLMN is "GSM-MAP" and never stored otherwise.
<i>ANSI</i>	This information is optional when the PLMN Type in the variable SELECTED_PLMN is "ANSI-41" and never stored otherwise.

CHANGE REQUEST

⌘ **25.331 CR 1104** ⌘ ev **-** ⌘ Current version: **4.2.1** ⌘

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

Proposed change affects: ⌘ (U)SIM ME/UE Radio Access Network Core Network

Title:	⌘ Preconfigurations in case of equivalent PLMNs		
Source:	⌘ TSG-RAN WG2		
Work item code:	⌘ TEI	Date:	⌘ 29. Nov. 2001
Category:	⌘ A	Release:	⌘ REL-4
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)		2 (GSM Phase 2)
	A (corresponds to a correction in an earlier release)		R96 (Release 1996)
	B (addition of feature),		R97 (Release 1997)
	C (functional modification of feature)		R98 (Release 1998)
	D (editorial modification)		R99 (Release 1999)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		REL-4 (Release 4)
			REL-5 (Release 5)

Reason for change: ⌘ In order to use predefined configurations also in shared network environments it is required that operators co-ordinate the pre-configurations between their networks. Consequently, the UE should not deliberately delete already received pre-configurations when a new cell of a equivalent PLMN is selected but it should assume that they are also valid within the equivalent PLMN. While in GSM mode, the received pre-configurations can be used even if they were received from an equivalent PLMN.

Summary of change: ⌘ A new area scope *Equivalent PLMN* is introduced. While system information blocks with area scope *PLMN* are only valid within the PLMN where they were received, system information blocks with area scope *Equivalent PLMN* are also valid within equivalent PLMNs. They are not automatically deleted upon selection of a cell belonging to different PLMN. The UE will keep them if the new PLMN is indicated to be equivalent and continue to apply the usual update mechanism.

The area scope of SIB16 is changed from *PLMN* to *Equivalent PLMN*.

It is clarified that SIB16 remains valid upon transition to or from GSM/GPRS, otherwise preconfigurations which were read while in UTRAN could not be used for HO from GSM to UTRAN.

A note is added to clarify that the UE might read SIB16 also while connected to GSM/GPRS.

CELL_DCH is added to the RRC protocol states where SIB16 is valid, otherwise the UE would delete all received instances of SIB16 when entering CELL_DCH state. No preconfigurations would be available after a handover to GSM.

Isolated Impact Analysis:

Corrected functionality is the reception of predefined configurations.

	Would not affect implementations behaving like indicated in the CR, would affect implementations supporting the corrected functionality otherwise.													
Consequences if not approved:	⌘	Insufficient support for predefined configurations in shared networks. The UE could not use configurations which were received from an equivalent PLMN.												
Clauses affected:	⌘	8.1.1.1.2; 8.1.1.3; 8.1.1.5; 13.4.32												
Other specs affected:	⌘	<table border="1"> <tr> <td><input type="checkbox"/></td> <td>Other core specifications</td> <td>⌘</td> <td>25.331 v3.8.0, CR 1103</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Test specifications</td> <td></td> <td></td> </tr> <tr> <td><input type="checkbox"/></td> <td>O&M Specifications</td> <td></td> <td></td> </tr> </table>	<input type="checkbox"/>	Other core specifications	⌘	25.331 v3.8.0, CR 1103	<input type="checkbox"/>	Test specifications			<input type="checkbox"/>	O&M Specifications		
<input type="checkbox"/>	Other core specifications	⌘	25.331 v3.8.0, CR 1103											
<input type="checkbox"/>	Test specifications													
<input type="checkbox"/>	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/3G_Specs/CRs.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.

8.1.1.1.2 System information blocks

Table 8.1.1 specifies all system information blocks and their characteristics.

The *area scope column* in table 8.1.1 specifies the area where a system information block's value tag is valid. If the area scope is *cell*, the UE shall consider the system information block to be valid only in the cell in which it was read. If system information blocks have been previously stored for this cell, the UE shall check whether the value tag for the system information block in the entered cell is different compared to the stored value tag. If the area scope is *PLMN or Equivalent PLMN*, the UE shall check the value tag for the system information block when a new cell is selected. If the value tag for the system information block in the new cell is different compared to the value tag for the system information block stored in the UE, the UE shall re-read the system information block. If the area scope is PLMN, the UE shall consider the system information block to be valid only within the PLMN in which it was read. If the area scope is Equivalent PLMN, the UE shall consider the system information block to be valid within the PLMN in which it was received and all PLMNs which are indicated by higher layers to be equivalent.

For System information block types 15.2, 15.3 and 16, which may have multiple occurrences, each occurrence has its own independent value tag. The UE shall re-read a particular occurrence if the value tag of this occurrence has changed compared to that stored in the UE.

The *UE mode/state column when block is valid* in Table 8.1.1 specifies in which UE mode or UE state the IEs in a system information block shall be regarded as valid by the UE. In other words, the indicated system information block becomes invalid upon change to a mode/state that is not included in this column. System Information Block 16 remains also valid upon transition to or from GSM/GPRS. In some cases, the states are inserted in brackets to indicate that the validity is dependent on the broadcast of the associated System Information Blocks by the network as explained in the relevant procedure section.

The *UE mode/state column when block is read* in Table 8.1.1 specifies in which UE mode or UE state the IEs in a system information block may be read by the UE. The UE shall have the necessary information prior to execution of any procedure requiring information to be obtained from the appropriate system information block. The requirements on the UE in terms of when to read the system information may therefore be derived from the procedure specifications that specify which IEs are required in the different UE modes/states in conjunction with the different performance requirements that are specified. System Information Block type 10 shall only be read by the UE while in CELL_DCH.

NOTE: There are a number of system information blocks that include the same IEs while the UE mode/state in which the information is valid differs. This approach is intended to allow the use of different IE values in different UE mode/states.

NOTE: System information block 16 is also obtained by a UE while in GSM/GPRS. The details of this are not within the scope of this specification.

The *Scheduling information column* in Table 8.1.1 specifies the position and repetition period for the SIB.

The *modification of system information column* in Table 8.1.1 specifies the update mechanisms applicable for a certain system information block. For system information blocks with a value tag, the UE shall update the information according to subclause 8.1.1.7.1 or 8.1.1.7.2. For system information blocks with an expiration timer, the UE shall, when the timer expires, perform an update of the information according to subclause 8.1.1.7.4.

Table 8.1.1: Specification of system information block characteristics

System information block	Area scope	UE mode/state when block is valid	UE mode/state when block is read	Scheduling information	Modification of system information	Additional comment
Master information block	Cell	Idle mode, CELL_FACH, CELL_PCH, URA_PCH	Idle mode, CELL_FACH, CELL_PCH, URA_PCH	SIB_POS = 0 SIB_REP = 8 (FDD) SIB_REP = 8, 16, 32 (TDD) SIB_OFF=2	Value tag	
Scheduling block 1	Cell	Idle mode, CELL_FACH, CELL_PCH, URA_PCH	Idle mode, CELL_FACH, CELL_PCH, URA_PCH	Specified by the IE "Scheduling information" in MIB	Value tag	
Scheduling block 2	Cell	Idle mode, CELL_FACH, CELL_PCH, URA_PCH	Idle mode, CELL_FACH, CELL_PCH, URA_PCH	Specified by the IE "Scheduling information" in MIB	Value tag	
System information block type 1	PLMN	Idle mode, CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH	Idle, CELL_FACH, CELL_PCH, URA_PCH	Specified by the IE "Scheduling information"	Value tag	
System information block type 2	Cell	URA_PCH	URA_PCH	Specified by the IE "Scheduling information"	Value tag	
System information block type 3	Cell	Idle mode, (CELL_FACH, CELL_PCH, URA_PCH)	Idle mode, (CELL_FACH, CELL_PCH, URA_PCH)	Specified by the IE "Scheduling information"	Value tag	
System information block type 4	Cell	CELL_FACH, CELL_PCH, URA_PCH	CELL_FACH, CELL_PCH, URA_PCH	Specified by the IE "Scheduling information"	Value tag	If System information block type 4 is not broadcast in a cell, the connected mode UE shall apply information in System information block type 3 in connected mode.
System information block type 5	Cell	Idle mode, (CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH (TDD only))	Idle mode, (CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH (TDD only))	Specified by the IE "Scheduling information"	Value tag	

System information block type 6	Cell	CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH (TDD only)	CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH (TDD only)	Specified by the IE "Scheduling information"	Value tag	<p>If system information block type 6 is not broadcast in a cell, the connected mode UE shall read System information block type 5.</p> <p>If some of the optional IEs are not included in System information block type 6, the UE shall read the corresponding IEs in System information block type 5</p> <p>In TDD mode system information block 6 shall only be read in CELL_DCH if required for open loop power control as specified in subclause 8.5.7 and/or if shared transport channels are assigned to the UE. If in these cases system information block type 6 is not broadcast the UE shall read system information block type 5.</p>
System information block type 7	Cell	Idle mode, CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH (TDD only)	Idle mode, CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH (TDD only)	Specified by the IE "Scheduling information"	Expiration timer = MAX(320 ms, SIB_REP * ExpirationTimeFactor)	In TDD mode system information block type 7 shall only be read in CELL_DCH if shared transport channels are assigned to the UE.
System information block type 8	Cell	CELL_FACH, CELL_PCH, URA_PCH	CELL_FACH, CELL_PCH, URA_PCH	Specified by the IE "Scheduling information"	Value tag	
System information block type 9	Cell	CELL_FACH, CELL_PCH, URA_PCH	CELL_FACH, CELL_PCH, URA_PCH	Specified by the IE "Scheduling information"	Expiration timer = SIB_REP	
System information block type 10	Cell	CELL_DCH	CELL_DCH	Specified by the IE "Scheduling information"	Expiration timer = SIB_REP	
System information block type 11	Cell	Idle mode (CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH)	Idle mode (CELL_FACH, CELL_PCH, URA_PCH)	Specified by the IE "Scheduling information"	Value tag	

System information block type 12	Cell	CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH	CELL_FACH, CELL_PCH, URA_PCH	Specified by the IE "Scheduling information"	Value tag	If system information block type 12 is not broadcast in a cell, the connected mode UE shall read System information block type 11. If some of the optional IEs are not included in System information block type 12, the UE shall read the corresponding IEs in System information block type 11.
System information block type 13	Cell	Idle Mode, CELL_FACH, CELL_PCH, URA_PCH	Idle Mode, CELL_FACH, CELL_PCH, URA_PCH	Specified by the IE "Scheduling information"	Value tag	
System information block type 13.1	Cell	Idle Mode, CELL_FACH, CELL_PCH, URA_PCH	Idle Mode, CELL_FACH, CELL_PCH, URA_PCH	Specified by the IE "Scheduling information"	Value tag	
System information block type 13.2	Cell	Idle Mode, CELL_FACH, CELL_PCH, URA_PCH	Idle Mode, CELL_FACH, CELL_PCH, URA_PCH	Specified by the IE "Scheduling information"	Value tag	
System information block type 13.3	Cell	Idle Mode, CELL_FACH, CELL_PCH, URA_PCH	Idle Mode, CELL_FACH, CELL_PCH, URA_PCH	Specified by the IE "Scheduling information"	Value tag	
System information block type 13.4	Cell	Idle Mode, CELL_FACH, CELL_PCH, URA_PCH	Idle Mode, CELL_FACH, CELL_PCH, URA_PCH	Specified by the IE "Scheduling information"	Value tag	
System information block type 14	Cell	Idle Mode, CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH	Idle Mode, CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH	Specified by the IE "Scheduling information"	Expiration timer = MAX([320 ms], SIB_REP * ExpirationTimeFactor)	This system information block is used in TDD mode only. System information block type 14 shall only be read in CELL_DCH if required for open loop power control as specified in subclause 8.5.7.
System information block type 15	Cell	Idle Mode, CELL_FACH, CELL_PCH, URA_PCH	Idle Mode, CELL_FACH, CELL_PCH, URA_PCH	Specified by the IE "Scheduling information"	Value tag	
System information block type 15.1	Cell	Idle Mode, CELL_FACH, CELL_PCH, URA_PCH	Idle Mode, CELL_FACH, CELL_PCH, URA_PCH	Specified by the IE "Scheduling information"	Value tag	
System information block type 15.2	Cell	Idle Mode, CELL_FACH, CELL_PCH, URA_PCH	Idle Mode, CELL_FACH, CELL_PCH, URA_PCH	Specified by the IE "Scheduling information"	Value tag	For this system information block there may be multiple occurrences
System information block type 15.3	PLMN	Idle Mode, CELL_FACH, CELL_PCH, URA_PCH	Idle Mode, CELL_FACH, CELL_PCH, URA_PCH	Specified by the IE "Scheduling information"	Value tag	For this system information block there may be multiple occurrences
System information block type 15.4	Cell	Idle Mode, CELL_FACH, CELL_PCH, URA_PCH	Idle Mode, CELL_FACH, CELL_PCH, URA_PCH	Specified by the IE "Scheduling information"	Value tag	

System information block type 16	<u>Equivalent PLMN</u>	Idle Mode, CELL_FACH, CELL_PCH, URA_PCH, <u>CELL_DCH</u>	Idle Mode, CELL_FACH, CELL_PCH, URA_PCH	Specified by the IE "Scheduling information"	Value tag	For this system information block there may be multiple occurrences. <u>This system information block is also valid while in GSM/GPRS.</u>
System information block type 17	Cell	CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH	CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH	Specified by the IE "Scheduling information"	Expiration timer = SIB_REP	This system information block is used in TDD mode only. System information block type 17 shall only be read if shared transport channels are assigned to the UE.
System Information Block type 18	Cell	Idle mode, CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH	Idle mode, CELL_FACH, CELL_PCH, URA_PCH	Specified by the IE "Scheduling information"	Value tag	

The UE shall acquire all system information blocks except system information block type 10 on BCH. System Information Block type 10 shall be acquired on the FACH and only by UEs with support for simultaneous reception of one SCCPCH and one DPCH. If System Information Block type 10 is not broadcast in a cell, the DRAC procedures do not apply in this cell. System Information Block type 10 is used in FDD mode only.

8.1.1.3 Reception of SYSTEM INFORMATION messages by the UE

The UE shall read SYSTEM INFORMATION messages broadcast on a BCH transport channel in idle mode and in the connected mode in states CELL_FACH, CELL_PCH, URA_PCH and CELL_DCH (TDD only). In addition, UEs in FDD mode which support simultaneous reception of one SCCPCH and one DPCH shall read system information on a FACH transport channel when in CELL_DCH state.

In idle mode and connected mode different combinations of system information blocks are valid. The UE shall acquire the system information blocks that are needed according to Table 8.1.1.

The UE may store system information blocks with ~~cell or PLMN~~ cell, PLMN or Equivalent PLMN area scope (including their value tag if applicable) for different cells and different PLMNs, to be used if the UE returns to these cells.

The UE shall consider all stored system information blocks as invalid after it has been switched off. Some information obtained from system information may be stored by the UE or in the USIM for use in a stored information cell selection.

When selecting a new cell within the currently used PLMN, the UE shall consider all current system information blocks with area scope cell to be invalid. If the UE has stored valid system information blocks for the newly selected cell, the UE may set those as current system information blocks.

After selecting a new PLMN, the UE shall consider all current system information blocks with area scope cell and PLMN to be invalid. If the UE has previously stored valid system information blocks for the selected cell of the new PLMN, the UE may set those as current system information blocks. Upon selection of a new PLMN the UE shall store all information elements specified within variable SELECTED_PLMN for the new PLMN within this variable.

After selecting a new PLMN which is not indicated by higher layers to be equivalent to the identity of the previously selected PLMN, the UE shall consider all system information blocks with area scope Equivalent PLMN to be invalid.

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:

- if the "PLMN type" in the variable SELECTED_PLMN has the value "GSM-MAP" and the IE "PLMN Type" has the value "GSM-MAP" or "GSM-MAP and ANSI-41":
 - check the IE "PLMN identity" in the master information block and verify that it is the selected PLMN, stored as "PLMN identity" in the variable SELECTED_PLMN;
- 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":
 - store the ANSI-41 Information elements contained in the master information block and perform initial process for ANSI-41;
- 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;
- if the value tags differ, or if no IEs for the master information block are stored:
 - store the value tag into the variable VALUE_TAG for the master information block;
 - read and store scheduling information included in the master information block;
- 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:

- for all system information blocks with area scope "PLMN" or "Equivalent PLMN" that use value tags:
 - 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;
 - if the value tags differ, or if no IEs for the corresponding system information block are stored:
 - store the value tag read in scheduling information for that system information block into the variable VALUE_TAG;
 - read and store the IEs of that system information block;
 - 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;
- for all system information blocks or scheduling blocks with area scope cell that use value tags:
 - 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;
 - if the value tags differ, or if no IEs for the corresponding system information block or scheduling block are stored:
 - store the value tag read in scheduling information for that system information block or scheduling block into the variable VALUE_TAG;
 - read and store the IEs of that system information block or scheduling block;

- 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;
- for system information blocks which may have multiple occurrences:
 - 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;
 - 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:
 - 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;
 - read and store the IEs of that system information block;
 - 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:

- skip reading this system information block;
- skip monitoring changes to this system information block.

If the UE:

- receives a scheduling block at a position different from its position according to the scheduling information for the scheduling block; or
- receives a scheduling block for which scheduling information has not been received:

the UE may:

- store the content of the scheduling block with a value tag set to the value NULL; and
- 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:

- read the scheduling information for this scheduling block.

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

$$\text{SFN mod } 32 = 0$$

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

- consider the master information block as not found; and
- consider the cell to be barred according to [4]; and
- 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:

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

- 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:

- 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:

- 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:

- consider the cell to be barred according to [4]; and
- 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:

- consider the cell to be barred according to [4]; and
- 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 System Information Block type 5 is not scheduled on BCH or System Information Block type 5 is scheduled but IE "AICH info" (FDD) or IE "PICH info" is not present, the UE shall:

- consider the cell to be barred according to [4]; and
- 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 5 is not scheduled on BCH, and System Information Block type 6 is not scheduled on BCH, or any of System Information Block type 5 or type 6 is scheduled but IE "AICH info" (FDD) or IE "PICH info" is not present, the UE shall:

- consider the cell to be barred according to [4]; and
- 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:

- consider the cell to be barred according to [4]; and
- 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:

- consider the cell to be barred according to [4]; and
- 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} ".

13.4.32 VALUE_TAG

This variable contains information about the value tag for the last received system information block of a given type, for all system information blocks using value tags. The UE shall maintain one instance of this variable for the current selected cell. The UE may store several instances of this variable, one for each cell, to be used if the UE returns to these cells.

All IEs in this variable shall be cleared when switched off. All IEs in this variable except for the IE "SIB 16 value tag list" shall be cleared ~~and as well as~~ at selection of a new PLMN. The IE "SIB 16 value tag list" is cleared at selection of a new PLMN which is not indicated by higher layers to be equivalent to the previously selected PLMN.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
MIB value tag	OP		MIB value tag 10.3.8.9	Value tag for the master information block
SB 1 value tag	OP		Cell value tag 10.3.8.4	Value tag for the scheduling block type 1
SB 2 value tag	OP		Cell value tag 10.3.8.4	Value tag for the scheduling block type 2
SIB 1 value tag	CV-GSM		PLMN value tag 10.3.8.10	Value tag for the system information block type 1
SIB 2 value tag	OP		Cell value tag 10.3.8.4	Value tag for the system information block type 2
SIB 3 value tag	OP		Cell value tag 10.3.8.4	Value tag for the system information block type 3
SIB 4 value tag	OP		Cell value tag 10.3.8.4	Value tag for the system information block type 4
SIB 5 value tag	OP		Cell value tag 10.3.8.4	Value tag for the system information block type 5
SIB 6 value tag	OP		Cell value tag 10.3.8.4	Value tag for the system information block type 6
CHOICE mode	MP			
>FDD				
>>SIB 8 value tag	OP		Cell value tag 10.3.8.4	Value tag for the system information block type 8
>TDD				(no data)
SIB 11 value tag	OP		Cell value tag 10.3.8.4	Value tag for the system information block type 11
SIB 12 value tag	OP		Cell value tag 10.3.8.4	Value tag for the system information block type 12
SIB 13 value tag	CV-ANSI		Cell value tag 10.3.8.4	Value tag for the system information block type 13
SIB 13.1 value tag	CV-ANSI		Cell value tag 10.3.8.4	Value tag for the system information block type 13.1
SIB 13.2 value tag	CV-ANSI		Cell value tag 10.3.8.4	Value tag for the system information block type 13.2
SIB 13.3 value tag	CV-ANSI		Cell value tag 10.3.8.4	Value tag for the system information block type 13.3
SIB 13.4 value tag	CV-ANSI		Cell value tag 10.3.8.4	Value tag for the system information block type 13.4
SIB 15 value tag	OP		Cell value tag 10.3.8.4	Value tag for the system information block type 15
SIB 15.1 value tag	OP		Cell value tag 10.3.8.4	Value tag for the system information block type 15.1
SIB 15.2 value tag list	OP	1 to <maxSat>		List of value tags for all stored occurrences of system information block type 15.2
>SIB 15.2 value tag	MP		Cell value tag 10.3.8.4	
>SIB occurrence identity and value tag	MP		SIB occurrence identity and value tag 10.3.8.20b	
SIB 15.3 value tag list	OP	1 to <maxSat>		List of value tags for all stored occurrences of system information block type 15.3
>SIB 15.3 value tag	MP		PLMN value tag 10.3.8.10	Value tag for the system information block type 15.3
>SIB occurrence identity and value tag	MP		SIB occurrence identity and value tag 10.3.8.20b	
SIB 15.4 value tag	OP		Cell value tag 10.3.8.4	Value tag for the system information block type 15.4
SIB 16 value tag list	OP	1 to <maxPred		List of value tags for all stored occurrences of the system

		efConfig>		information block type 16
>Predefined configuration identity and value tag	MP		Predefined configuration identity and value tag 10.3.8.11	
SIB 18 value tag	OP		Cell value tag 10.3.8.4	Value tag for the system information block type 18

Condition	Explanation
<i>GSM</i>	This information is optional when the PLMN Type in the variable SELECTED_PLMN is "GSM-MAP" and never stored otherwise.
<i>ANSI</i>	This information is optional when the PLMN Type in the variable SELECTED_PLMN is "ANSI-41" and never stored otherwise.

CHANGE REQUEST

⌘ **25.331 CR 1108** ⌘ ev **r1** ⌘ Current version: **3.8.0** ⌘

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

Proposed change affects: ⌘ (U)SIM ME/UE Radio Access Network Core Network

Title: ⌘ Handling of DRX cycle and U-RNTI in RRC connection setup and handling of TrCH information

Source: ⌘ TSG-RAN WG2

Work item code: ⌘ TEI

Date: ⌘ 2001-11-15

Category: ⌘ **F**

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.

Release: ⌘ R99

Use one of the following releases:

2 (GSM Phase 2)

R96 (Release 1996)

R97 (Release 1997)

R98 (Release 1998)

R99 (Release 1999)

REL-4 (Release 4)

REL-5 (Release 5)

Reason for change: ⌘ **1) Clause 8.1.3.6**

The description on how the UE should act upon the IE "UTRAN DRX cycle length coefficient" on reception of an RRC CONNECTION SETUP message was missing.

2) Clause 8.1.4.3

The UE can receive the first RRC CONNECTION RELEASE message on CCCH as well as on DCCH. In this Version, 3.8.0, the description on the dependency of IE "U-RNTI" is missing.

In case the UE receives on CCCH it shall act on this message only if IE "U-RNTI" is present and has the same value as the variable U_RNTI.

3) Clauses 8.6.5.5, 8.6.5.7

If the IE "Added or Reconfigured UL TrCH information" or if the IE "Deleted UL TrCH information" is included then the UE shall perform actions for the transport channel identified by the IE "UL Transport Channel Identity". However, the transport channel is identified by the IE "Uplink transport channel type" also.

Summary of change:	<p>⌘ 1) Clause 8.1.3.6 missing description of IE "UTRAN DRX cycle length coefficient" added: ignore IE "UTRAN DRX cycle length coefficient" and stop using DRX; Change Presence for UTRAN DRX cycle length coefficient to be optional rather than MD. The IE "UTRAN DRX cycle length coefficient" should always be included by the network in case the UE ends up in URA_PCH or CELL_PCH state. (section 10)</p> <p>2) Clause 8.1.4.3 added new clarifying text: When the UE receives the first RRC CONNECTION RELEASE message And - if the message is received on the CCCH, and IE "U-RNTI" is present and has the same value as the variable U_RNTI, or; if the message is received on DCCH;</p> <p>3) Clauses 8.6.5.5, 8.6.5.7 Correction on identification of the transport channel because it is identified not only by the IE "UL TrCH identity" but also by the IE "Uplink transport channel type".</p> <p>Isolated Impact Analysis:</p> <ul style="list-style-type: none"> • Correction to a function where the specification was: <ul style="list-style-type: none"> ○ ambiguous or not sufficiently explicit. <p>Would not affect implementations behaving like indicated in the CR, would affect implementations supporting the corrected functionality otherwise.</p> <p>Affected function:</p> <p>UE handling on reception of an RRC CONNECTION SETUP and RRC CONNECTION RELEASE message is clarified. Also the handling on the reception of IE "Added or Reconfigured UL TrCH information" has been corrected.</p>
Consequences if not approved:	⌘ Ambiguous specification

Clauses affected:	⌘ 8.1.3.6, 8.1.4.3, 8.2.2.3, 8.3.1.6, 8.6.5.5, 8.6.5.7, 10.2.8, 10.2.22, 10.2.27, 10.2.30, 10.2.33, 10.2.50, 10.2.61									
Other specs affected:	<table border="0"> <tr> <td style="vertical-align: top;">⌘ <input type="checkbox"/></td> <td>Other core specifications</td> <td style="vertical-align: top;">⌘ 25.331 v4.2.1, CR 1109</td> </tr> <tr> <td style="vertical-align: top;"><input type="checkbox"/></td> <td>Test specifications</td> <td></td> </tr> <tr> <td style="vertical-align: top;"><input type="checkbox"/></td> <td>O&M Specifications</td> <td></td> </tr> </table>	⌘ <input type="checkbox"/>	Other core specifications	⌘ 25.331 v4.2.1, CR 1109	<input type="checkbox"/>	Test specifications		<input type="checkbox"/>	O&M Specifications	
⌘ <input type="checkbox"/>	Other core specifications	⌘ 25.331 v4.2.1, CR 1109								
<input type="checkbox"/>	Test specifications									
<input type="checkbox"/>	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/3G_Specs/CRs.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.

8.1.3.6 Reception of an RRC CONNECTION SETUP message by the UE

The UE shall compare the value of the IE "Initial UE identity" in the received RRC CONNECTION SETUP message with the value of the variable INITIAL_UE_IDENTITY.

If the values are different, the UE shall:

- ignore the rest of the message;

If the values are identical, the UE shall:

- stop timer T300, and act upon all received information elements as specified in subclause 8.6, unless specified otherwise in the following;
 - if the UE will be in the CELL_FACH state at the conclusion of this procedure:
 - if the IE "Frequency info" is included:
 - select a suitable UTRA cell according to [4] on that frequency;
 - select PRACH according to subclause 8.5.17;
 - select Secondary CCPCH according to subclause 8.5.19;
 - ignore the IE "UTRAN DRX cycle length coefficient" and stop using DRX;
 - perform the physical layer synchronization procedure as specified in [29];
 - enter a state according to subclause 8.6.3.3;
 - submit an RRC CONNECTION SETUP COMPLETE message to the lower layers on the uplink DCCH after successful state transition per subclause 8.6.3.3, with the contents set as specified below:
 - set the IE "RRC transaction identifier" to
 - the value of "RRC transaction identifier" in the entry for the RRC CONNECTION SETUP message in the table "Accepted transactions" in the variable TRANSACTIONS; and
 - clear that entry.
 - if the USIM is present:
 - set the "START" for each CN domain in the IE "START list" in the RRC CONNECTION SETUP COMPLETE message with the corresponding START value that is stored in the USIM [50]; and then
 - set the START value stored in the USIM [50] for any CN domain to the value "THRESHOLD" of the variable START_THRESHOLD;
 - if the USIM is not present:
 - set the "START" for each CN domain in the IE "START list" in the RRC CONNECTION SETUP COMPLETE message to zero;
 - retrieve its UTRA UE radio access capability information elements from variable UE_CAPABILITY_REQUESTED; and then
 - include this in IE "UE radio access capability" and IE "UE radio access capability extension", provided this IE is included in variable UE_CAPABILITY_REQUESTED;
 - retrieve its inter-RAT-specific UE radio access capability information elements from variable UE_CAPABILITY_REQUESTED; and then
 - include this in IE "UE system specific capability".

When the RRC CONNECTION SETUP COMPLETE message has been submitted to lower layers for transmission the UE shall:

- if the UE has entered CELL_FACH state:
 - start timer T305 using its initial value 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 system information block type 1;
 - store the contents of the variable UE_CAPABILITY_REQUESTED in the variable UE_CAPABILITY_TRANSFERRED;
 - initialise variables upon entering UTRA RRC connected mode as specified in subclause 13.4;
 - consider the procedure to be successful;

And the procedure ends.

----- omitted -----

8.1.4.3 Reception of an RRC CONNECTION RELEASE message by the UE

The UE shall receive and act on an RRC CONNECTION RELEASE message in states CELL_DCH and CELL_FACH. Furthermore this procedure can interrupt any ongoing procedures with the UE in the above listed states.

When the UE receives the first RRC CONNECTION RELEASE message, ~~and~~ and

- if the message is received on the CCCH, and IE "U-RNTI" is present and has the same value as the variable U_RNTI, or;
- if the message is received on DCCH;

it shall:

- in state CELL_DCH:
 - initialise the counter V308 to zero;
 - set the IE "RRC transaction identifier" in the RRC CONNECTION RELEASE COMPLETE message to the value of "RRC transaction identifier" in the entry for the RRC CONNECTION RELEASE message in the table "Accepted transactions" in the variable TRANSACTIONS; and
 - clear that entry.
 - submit an RRC CONNECTION RELEASE COMPLETE message to the lower layers for transmission using UM RLC on the DCCH to the UTRAN;
 - if the IE "Rplmn information" is present:
 - the UE may:
 - store the IE on the ME together with the PLMN id for which it applies;
 - the UE may then:
 - utilise this information, typically indicating where a number of BCCH frequency ranges of a RAT may be expected to be found, during subsequent Rplmn selections of the indicated PLMN;
 - start timer T308 when the RRC CONNECTION RELEASE COMPLETE message is sent on the radio interface.
- in state CELL_FACH:
 - if the RRC CONNECTION RELEASE message was received on the DCCH:

- set the IE "RRC transaction identifier" in the RRC CONNECTION RELEASE COMPLETE message to the value of "RRC transaction identifier" in the entry for the RRC CONNECTION RELEASE message in the table "Accepted transactions" in the variable TRANSACTIONS; and
- clear that entry;
- submit an RRC CONNECTION RELEASE COMPLETE message to the lower layers for transmission using AM RLC on the DCCH to the UTRAN.
- when the successful transmission of the RRC CONNECTION RELEASE COMPLETE message has been confirmed by the lower layers:
 - release all its radio resources; and
 - indicate the release of the established signalling connections (as stored in the variable ESTABLISHED_SIGNALLING_CONNECTIONS) and established radio access bearers (as stored in the variable ESTABLISHED_RABS) to upper layers; and
 - clear the variable ESTABLISHED_SIGNALLING_CONNECTIONS;
 - clear the variable ESTABLISHED_RABS;
 - pass the value of the IE "Release cause" received in the RRC CONNECTION RELEASE message to upper layers;
 - enter idle mode;
 - perform the actions specified in subclause 8.5.2 when entering idle mode;
- and the procedure ends.
- if the RRC CONNECTION RELEASE message was received on the CCCH:
 - release all its radio resources;
 - indicate the release of the established signalling connections (as stored in the variable ESTABLISHED_SIGNALLING_CONNECTIONS) and established radio access bearers (as stored in the variable ESTABLISHED_RABS) to the upper layers;
 - clear the variable ESTABLISHED_SIGNALLING_CONNECTIONS;
 - clear the variable ESTABLISHED_RABS;
 - pass the value of the IE "Release cause" received in the RRC CONNECTION RELEASE message to upper layers;
 - enter idle mode;
 - perform the actions specified in subclause 8.5.2 when entering idle mode;
 - and the procedure ends.

----- omitted -----

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 be able to receive any of the following messages:

- RADIO BEARER SETUP message; or
- RADIO BEARER RECONFIGURATION message; or
- RADIO BEARER RELEASE message; or
- TRANSPORT CHANNEL RECONFIGURATION message; or
- PHYSICAL CHANNEL RECONFIGURATION message

and perform a hard handover, even if no prior UE measurements have been performed on the target cell and/or frequency.

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:

- set the variable ORDERED_RECONFIGURATION to TRUE;
- perform the physical layer synchronisation procedure as specified in [29];
- 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 first release the physical channel configuration used at reception of the reconfiguration message. The UE shall then:

- 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:
 - act upon the IE "PDSCH code mapping" as specified in subclause 8.6 and;
 - infer that the PDSCH will be transmitted from the cell from which the downlink DPCH is transmitted;
- 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:

- 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:

- remove any C-RNTI from MAC;
- clear the variable C_RNTI.

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

- if the IE "UL DPCH Info" is absent, not change its current UL Physical channel configuration;
- if the IE "DL DPCH Info for each RL" is absent, not change its current DL Physical channel configuration.

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

- if the IE "Frequency info" is included in the received reconfiguration message:
 - select a suitable UTRA cell according to [4] on that frequency;
- if the IE "Frequency info" is not included in the received reconfiguration message:
 - select a suitable UTRA cell according to [4];
- 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):
 - initiate a cell update procedure according to subclause 8.3.1 using the cause "Cell reselection";
 - when the cell update procedure completed successfully:
 - 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";
 - proceed as below;
- 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 system information block type 1;
- select PRACH according to subclause 8.5.17;
- select Secondary CCPCH according to subclause 8.5.19;
- use the transport format set given in system information;
- if the IE "UTRAN DRX cycle length coefficient" is included in the same message:
 - ignore that IE and stop using DRX;
- if the contents of the variable C_RNTI is empty:
 - perform a cell update procedure according to subclause 8.3.1 using the cause "Cell reselection";
 - when the cell update procedure completed successfully:
 - 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";
 - proceed as below;

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:

- if the received reconfiguration message included the IE "Downlink counter synchronisation info":
 - re-establish RB2;
 - increment by one the downlink and uplink HFN values for RB2;

- calculate the START value according to subclause 8.5.9;
- include the calculated START values for each CN domain in the IE "START list" in the IE "Uplink counter synchronisation info";
- if the received reconfiguration message did not include the IE "Downlink counter synchronisation info":
 - if the variable START_VALUE_TO_TRANSMIT is set:
 - include and set the IE "START" to the value of that variable;
 - if the variable START_VALUE_TO_TRANSMIT is not set and the IE "New U-RNTI" is included:
 - calculate the START value according to subclause 8.5.9;
 - include the calculated START values for each CN domain in the IE "START list" in the IE "Uplink counter synchronisation info";
- if the received reconfiguration message contained the IE "Ciphering mode info":
 - include and set the IE "Radio bearer uplink ciphering activation time info" to the value of the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO;
- if the received reconfiguration message contained the IE "Integrity protection mode info" with the IE "Integrity protection mode command" set to "Modify":
 - include and set the IE "Integrity protection activation info" to the value of the variable INTEGRITY_PROTECTION_ACTIVATION_INFO;
- if the received reconfiguration message did not contain the IE "Ciphering activation time for DPCH" in IE "Ciphering mode info":
 - if prior to this procedure there exist no transparent mode RLC radio bearers:
 - if, at the conclusion of this procedure, the UE will be in CELL_DCH state; and
 - if, at the conclusion of this procedure, at least one transparent mode RLC radio bearer exists:
 - include the IE "COUNT-C activation time" and specify a CFN value other than the default, "Now", for this IE;
 - if prior to this procedure there exists at least one transparent mode RLC radio bearer:
 - if, at the conclusion of this procedure, no transparent mode RLC radio bearers exist:
 - include the IE "COUNT-C activation time" in the response message and specify a CFN value other than the default, "Now", for this IE;
- 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
- clear that entry;
- if the variable PDCP_SN_INFO is not empty:
 - include the IE "RB with PDCP information list" and set it to the value of the variable PDCP_SN_INFO;
- 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):
 - set the IE "Uplink Timing Advance" according to subclause 8.6.6.26;
- if the IE "Integrity protection mode info" was present in the received reconfiguration message:
 - 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 CELL_PCH or URA_PCH state, the UE shall, after the state transition and transmission of the response message:

- if the IE "Frequency info" is included in the received reconfiguration message:
 - select a suitable UTRA cell according to [4] on that frequency;
- if the IE "Frequency info" is not included in the received reconfiguration message:
 - select a suitable UTRA cell according to [4];
- prohibit periodical status transmission in RLC;
- remove any C-RNTI from MAC;
- clear the variable C_RNTI;
- 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 system information block type 1;
- select Secondary CCPCH according to subclause 8.5.19;
- if the IE "UTRAN DRX cycle length coefficient" is included in the same message:
 - 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;
- if the IE "UTRAN DRX cycle length coefficient" is not included in the same message:
 - set the variable INVALID_CONFIGURATION to TRUE;
- if the UE enters CELL_PCH state from CELL_DCH state, and 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):
 - initiate a cell update procedure according to subclause 8.3.1 using the cause "cell reselection";
 - when the cell update procedure completed successfully:
 - the procedure ends;
- if the UE enters CELL_PCH state from CELL_FACH state, and 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:
 - initiate a cell update procedure according to subclause 8.3.1 using the cause "cell reselection";
 - when the cell update procedure is successfully completed:
 - the procedure ends;
- if the UE enters URA_PCH state, and after cell selection the criteria for URA update caused by "URA reselection" according to subclause 8.3.1 is fulfilled:
 - initiate a URA update procedure according to subclause 8.3.1 using the cause "URA reselection";
 - when the URA update procedure is successfully completed:
 - the procedure ends.

8.3.1.6 Reception of the CELL UPDATE CONFIRM/URA UPDATE CONFIRM message by the UE

When the UE receives a CELL UPDATE CONFIRM/URA UPDATE CONFIRM message; and

- if the message is received on the CCCH, and IE "U-RNTI" is present and has the same value as the variable U_RNTI, or;
- if the message is received on DCCH;

the UE shall:

- stop timer T302;
- in case of a cell update procedure and the CELL UPDATE CONFIRM message:
 - includes "RB information elements"; and/or
 - includes "Transport channel information elements"; and/or
 - includes "Physical channel information elements"; and
 - if the variable ORDERED_RECONFIGURATION is set to FALSE:
 - set the variable ORDERED_RECONFIGURATION to TRUE;
- act upon all received information elements as specified in subclause 8.6, unless specified otherwise in the following:
 - use the transport channel(s) applicable for the physical channel types that is used; and
 - if the IE "TFS" is neither included nor previously stored in the UE for that transport channel(s):
 - use the TFS given in system information.
 - if none of the TFS stored is compatible with the physical channel:
 - delete the stored TFS;
 - use the TFS given in system information.
 - perform the physical layer synchronisation procedure as specified in [29];
 - if the CELL UPDATE CONFIRM message includes the IE "RLC re-establish indicator (RB2, RB3 and RB4)":
 - re-establish the RLC entities for signalling radio bearer RB2, signalling radio bearer RB3 and signalling radio bearer RB4 (if established);
 - if the value of the IE "Status" in the variable CIPHERING_STATUS of the CN domain stored in the variable LATEST_CONFIGURED_CN_DOMAIN is set to "Started":
 - set the HFN values for AM RLC entities with RB identity 2, RB identity 3 and RB identity 4 (if established) equal to the START value included in the latest transmitted CELL UPDATE message for the CN domain stored in the variable LATEST_CONFIGURED_CN_DOMAIN;
 - if the CELL UPDATE CONFIRM message includes the IE "RLC re-establish indicator (RB>4)":
 - for radio bearers with RB identity larger than 4:
 - re-establish the AM RLC entities;
 - if the value of the IE "Status" in the variable CIPHERING_STATUS of the CN domain as indicated in the IE "CN domain identity" in the IE "RAB info" in the variable ESTABLISHED_RABS is set to "Started":

- set the HFN values for AM RLC entities equal to the START value included in this CELL UPDATE message for the CN domain as indicated in the IE "CN domain identity" in the IE "RAB info" in the variable ESTABLISHED_RABS;
- enter a state according to subclause 8.6.3.3 applied on the CELL UPDATE CONFIRM / URA UPDATE CONFIRM message.

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

- not prohibit periodical status transmission in RLC.

If the UE after state transition remains in CELL_FACH state, it shall

- start the timer T305 using its initial value if timer T305 is not running and periodical cell update has been configured by T305 in the IE "UE Timers and constants in connected mode" set to any other value than "infinity";
- select PRACH according to subclause 8.5.17;
- select Secondary CCPCH according to subclause 8.5.19;
- not prohibit periodical status transmission in RLC;
- if the IE "UTRAN DRX cycle length coefficient" is included in the same message:
 - ignore that IE and stop using DRX;

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

- prohibit periodical status transmission in RLC;
- clear the variable C_RNTI;
- stop using that C_RNTI just cleared from the variable C_RNTI in MAC;
- start the timer T305 using its initial value if timer T305 is not running and periodical update has been configured by T305 in the IE "UE Timers and constants in connected mode" set to any other value than "infinity";
- select Secondary CCPCH according to subclause 8.5.19;
- if the IE "UTRAN DRX cycle length coefficient" is included in the same message:
 - 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 in CELL_PCH state.
- if the IE "UTRAN DRX cycle length coefficient" is not included in the same message:
 - set the variable INVALID_CONFIGURATION to TRUE;

If the UE after the state transition remains in CELL_FACH state and;

- the contents of the variable C_RNTI are empty;

it shall check the value of V302 and

- If V302 is equal to or smaller than N302:
 - if, caused by the received CELL UPDATE CONFIRM or URA UPDATE CONFIRM message,
 - the IE "Reconfiguration" in the variable CIPHERING_STATUS is set to TRUE; and/or
 - the IE "Reconfiguration" in the variable INTEGRITY_PROTECTION_INFO is set to TRUE;
 - abort the ongoing integrity and/or ciphering reconfiguration;
 - if the received CELL UPDATE CONFIRM or URA UPDATE CONFIRM message contained the IE "Ciphering mode info":

- set the IE "Reconfiguration" in the variable CIPHERING_STATUS to FALSE; and
- clear the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO;
- if the received CELL UPDATE CONFIRM or URA UPDATE CONFIRM message contained the IE "Integrity protection mode info":
 - set the IE "Reconfiguration" in the variable INTEGRITY_PROTECTION_INFO to FALSE; and
 - clear the variable INTEGRITY_PROTECTION_ACTIVATION_INFO;
- in case of a URA update procedure:
 - stop the URA update procedure; and
 - continue with a cell update procedure;
- set the contents of the CELL UPDATE message according to subclause 8.3.1.3, except for the IE "Cell update cause" which shall be set to "cell reselection";
- submit the CELL UPDATE message for transmission on the uplink CCCH;
- increment counter V302;
- restart timer T302 when the MAC layer indicates success or failure to transmit the message;
- If V302 is greater than N302:
 - clear the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO;
 - clear the variable INTEGRITY_PROTECTION_ACTIVATION_INFO;
 - in case of a cell update procedure:
 - clear the entry for the CELL UPDATE CONFIRM message in the table "Rejected transactions" in the variable TRANSACTIONS;
 - in case of a URA update procedure:
 - clear the entry for the URA UPDATE CONFIRM message in the table "Rejected transactions" in the variable TRANSACTIONS;
 - release all its radio resources;
 - indicate release (abort) of the established signalling connections (as stored in the variable ESTABLISHED_SIGNALLING_CONNECTIONS) and established radio access bearers (as stored in the variable ESTABLISHED_RABS) to upper layers;
 - clear the variable ESTABLISHED_SIGNALLING_CONNECTIONS;
 - clear the variable ESTABLISHED_RABS;
 - enter idle mode;
 - other actions the UE shall perform when entering idle mode from connected mode are specified in subclause 8.5.2;
 - and the procedure ends.

If the UE after the state transition remains in CELL_FACH state and

- a C-RNTI is stored in the variable C_RNTI;

or

the UE after the state transition moves to another state than the CELL_FACH state;

the UE shall:

- if the CELL UPDATE CONFIRM / URA UPDATE CONFIRM message contained the IE "Ciphering mode info":
 - include and set the IE "Radio bearer uplink ciphering activation time info" in any response message transmitted below to the value of the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO.
- if the CELL UPDATE CONFIRM / URA UPDATE CONFIRM message contained the IE "Integrity protection mode info" with the IE "Integrity protection mode command" set to "Modify":
 - include and set the IE "Integrity protection activation info" in any response message transmitted below to the value of the variable INTEGRITY_PROTECTION_ACTIVATION_INFO;
- in case of a cell update procedure:
 - set the IE "RRC transaction identifier" in any response message transmitted below to the value of "RRC transaction identifier" in the entry for the CELL UPDATE CONFIRM message in the table "Accepted transactions" in the variable TRANSACTIONS; and
 - clear that entry.
- in case of a URA update procedure:
 - set the IE "RRC transaction identifier" in any response message transmitted below to the value of "RRC transaction identifier" in the entry for the URA UPDATE CONFIRM message in the table "Accepted transactions" in the variable TRANSACTIONS; and
 - clear that entry;
- if the variable PDCP_SN_INFO is non-empty:
 - include the IE "RB with PDCP information list" in any response message transmitted below and set it to the value of the variable PDCP_SN_INFO;
- if the received CELL UPDATE CONFIRM or URA UPDATE CONFIRM message included the IE "Downlink counter synchronisation info":
 - calculate the START value according to subclause 8.5.9;
 - include the calculated START values for each CN domain in the IE "START list" in the IE "Uplink counter synchronisation info" in any response message transmitted below;
- transmit a response message as specified in subclause 8.3.1.7;
- if the IE "Integrity protection mode info" was present in the CELL UPDATE CONFIRM or URA UPDATE CONFIRM message:
 - start applying the new integrity protection configuration in the uplink for signalling radio bearer RB2 from and including the transmitted response message;
- if the variable ORDERED_RECONFIGURATION is set to TRUE caused by the received CELL UPDATE CONFIRM message in case of a cell update procedure:
 - set the variable ORDERED_RECONFIGURATION to FALSE;
- clear the variable PDCP_SN_INFO;
- if the CELL UPDATE CONFIRM / URA UPDATE CONFIRM message contained the IE "Ciphering mode info":
 - set the IE "Reconfiguration" in the variable CIPHERING_STATUS to FALSE; and
 - clear the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO;
- if the CELL UPDATE CONFIRM / URA UPDATE CONFIRM message contained the IE "Integrity protection mode info":
 - set the IE "Reconfiguration" in the variable INTEGRITY_PROTECTION_INFO to FALSE; and

- clear the variable INTEGRITY_PROTECTION_ACTIVATION_INFO;
- in case of a cell update procedure:
 - clear the entry for the CELL UPDATE CONFIRM message in the table "Rejected transactions" in the variable TRANSACTIONS;
- in case of a URA update procedure:
 - clear the entry for the URA UPDATE CONFIRM message in the table "Rejected transactions" in the variable TRANSACTIONS;
- set the variable CELL_UPDATE_STARTED to FALSE;

The procedure ends.

8.6.5.5 Added or Reconfigured UL TrCH information

If the IE "Added or Reconfigured UL TrCH information" is included then the UE shall:

- for the transport channel identified by the IE "UL Transport Channel Identity" and IE "Uplink transport channel type":
- perform the actions for the IE "Transport Format Set" as specified in subclause 8.6.5.1.

----- omitted -----

8.6.5.7 Deleted UL TrCH information

If the IE "Deleted UL TrCH information" is included the UE shall:

- delete any information about the transport channel identified by the IE "UL TrCH identity" and IE "Uplink transport channel type".

10.2.8 CELL UPDATE CONFIRM

This message confirms the cell update procedure and can be used to reallocate new RNTI information for the UE valid in the new cell.

RLC-SAP: UM

Logical channel: CCCH or DCCH

Direction: UTRAN→UE

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Message Type	MP		Message Type	
UE Information Elements				
U-RNTI	CV-CCCH		U-RNTI 10.3.3.47	
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	
Ciphering mode info	OP		Ciphering mode info 10.3.3.5	
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	
RRC State Indicator	MP		RRC State Indicator 10.3.3.10	
UTRAN DRX cycle length coefficient	<u>MDOP</u>		UTRAN DRX cycle length coefficient 10.3.3.49	<u>Default value is the existing DRX cycle length coefficient</u>
RLC re-establish indicator (RB2, RB3 and RB4)	MP		RLC re-establish indicator 10.3.3.35	
RLC re-establish indicator (RB5 and upwards)	MP		RLC re-establish indicator 10.3.3.35	
CN Information Elements				
CN Information info	OP		CN Information info 10.3.1.3	
UTRAN Information Elements				
URA identity	OP		URA identity 10.3.2.6	
RB information elements				
RB information to release list	OP	1 to <maxRB>		
>RB information to release	MP		RB information to release 10.3.4.19	
RB information to reconfigure list	OP	1 to <maxRB>		
>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	

Information Element/Group name	Need	Multi	Type and reference	Semantics description
			to be affected 10.3.4.17	
Downlink counter synchronisation info	OP			
>RB with PDCP information list	OP	1 to <maxRBall RABs>		This IE is needed for each RB having PDCP in the case of lossless SRNS relocation
>>RB with PDCP information	MP		RB with PDCP information 10.3.4.22	
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 <i>mode</i>	MP			
>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 >		

Information Element/Group name	Need	Multi	Type and reference	Semantics description
>Added or Reconfigured DL TrCH information	MP		Added or Reconfigured DL TrCH information 10.3.5.1	
PhyCH information elements				
Frequency info	MD		Frequency info 10.3.6.36	Default value is the existing value of frequency information
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				
>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 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	

Condition	Explanation
CCCH	This IE is mandatory present when CCCH is used and ciphering is not required and not needed otherwise.

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
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	
Ciphering mode info	OP		Ciphering mode info 10.3.3.5	
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	
RRC State Indicator	MP		RRC State Indicator 10.3.3.10	
UTRAN DRX cycle length coefficient	OPMD		UTRAN DRX cycle length coefficient 10.3.3.49	Default value is the existing value of UTRAN DRX cycle length coefficient
CN Information Elements				
CN Information info	OP		CN Information info 10.3.1.3	
UTRAN mobility 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>		This IE is needed for each RB having PDCP in the case of lossless SRNS relocation
>>RB with PDCP information	MP		RB with PDCP information 10.3.4.22	
PhyCH information elements				
Frequency info	MD		Frequency info 10.3.6.36	Default value is the existing value of frequency information
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				
>Uplink DPCH info	OP		Uplink DPCH info 10.3.6.88	
>CPCH SET Info			CPCH SET Info 10.3.6.13	
>CPCH set ID			CPCH set ID	

Information Element/Group name	Need	Multi	Type and reference	Semantics description
			10.3.5.3	
Downlink radio resources				
CHOICE <i>mode</i>	MP			
>FDD				
>>Downlink PDSCH information	OP		Downlink PDSCH information 10.3.6.30	
>TDD				(no data)
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.

RLC-SAP: AM or UM

Logical channel: DCCH

Direction: UTRAN → UE

Information Element/Group name	Need	Multi	Type and reference	Semantics description
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	
Ciphering mode info	OP		Ciphering mode info 10.3.3.5	
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	
RRC State Indicator	MP		RRC State Indicator 10.3.3.10	
UTRAN DRX cycle length coefficient	<u>MDOP</u>		UTRAN DRX cycle length coefficient 10.3.3.49	<u>Default value is the existing value of UTRAN DRX cycle length coefficient</u>
CN information elements				
CN Information info	OP		CN Information info 10.3.1.3	
UTRAN mobility information elements				
URA identity	OP		URA identity 10.3.2.6	
RB information elements				
RAB information to reconfigure list	OP	1 to <maxRABse tup >		
>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
>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	
TrCH Information Elements				
Uplink transport channels				
UL Transport channel	OP		UL Transport	

Information Element/Group name	Need	Multi	Type and reference	Semantics description
information common for all transport channels			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 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	
PhyCH information elements				
Frequency info	MD		Frequency info 10.3.6.36	Default value is the existing value of frequency information
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			

Information Element/Group name	Need	Multi	Type and reference	Semantics description
>Uplink DPCH info			Uplink DPCH info 10.3.6.88	
>CPCH SET Info			CPCH SET Info 10.3.6.13	
Downlink radio resources				
CHOICE <i>mode</i>	MP			
>FDD				
>>Downlink PDSCH information	OP		Downlink PDSCH information 10.3.6.30	
>TDD				(no data)
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
>Downlink information for each radio link	MP		Downlink information for each radio link 10.3.6.27	

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
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	
Ciphering mode info	OP		Ciphering mode info 10.3.3.5	
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	
RRC State Indicator	MP		RRC State Indicator 10.3.3.10	
UTRAN DRX cycle length coefficient	<u>MDOP</u>		UTRAN DRX cycle length coefficient 10.3.3.49	<u>Default value is the existing value of UTRAN DRX cycle length coefficient</u>
CN Information Elements				
CN Information info	OP		CN Information info 10.3.1.3	
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 <maxRABse tup >		
>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
>RB with PDCP information list	OP	1 to <maxRBall RABs>		This IE is needed for each RB having PDCP in the case of lossless SRNS relocation
>>RB with PDCP information	MP		RB with PDCP information 10.3.4.22	
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 <i>mode</i>	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	

Information Element/Group name	Need	Multi	Type and reference	Semantics description
PhyCH information elements				
Frequency info	MD		Frequency info 10.3.6.36	Default value is the existing value of frequency information
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
<i>CHOICE channel requirement</i>				
>Uplink DPCH info			Uplink DPCH info 10.3.6.88	
>CPCH SET Info			CPCH SET Info 10.3.6.13	
Downlink radio resources				
<i>CHOICE mode</i>				
>FDD	MP			
>>Downlink PDSCH information	OP		Downlink PDSCH information 10.3.6.30	
>TDD				(no data)
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	

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
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	
Ciphering mode info	OP		Ciphering mode info 10.3.3.5	
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	
RRC State Indicator	MP		RRC State Indicator 10.3.3.10	
UTRAN DRX cycle length coefficient	<u>MDOP</u>		UTRAN DRX cycle length coefficient 10.3.3.49	<u>Default value is the existing value of UTRAN DRX cycle length coefficient</u>
CN Information Elements				
CN Information info	OP		CN Information info 10.3.1.3	
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 <maxSRBs etup>		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 <maxRABs etup>		For each RAB established
>RAB information for setup	MP		RAB 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		This IE is needed for each RB having PDCP in the case of

Information Element/Group name	Need	Multi	Type and reference	Semantics description
		RABs>		lossless SRNS relocation
>>RB with PDCP information	MP		RB with PDCP information 10.3.4.22	
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 <i>mode</i>	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	
PhyCH information elements				
Frequency info	MD		Frequency	Default value is the existing

Information Element/Group name	Need	Multi	Type and reference	Semantics description
			info 10.3.6.36	value of frequency information
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 <i>channel requirement</i>	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 <i>mode</i>	MP			
>FDD				
>>Downlink PDSCH information	OP		Downlink PDSCH information 10.3.6.30	
>TDD				(no data)
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	

10.2.40 RRC CONNECTION SETUP

This message is used by the network to accept the establishment of an RRC connection for an UE, including assignment of signalling link information, transport channel information and optionally physical channel information.

RLC-SAP: UM

Logical channel: CCCH

Direction: UTRAN → UE

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Message Type	MP		Message Type	
UE Information Elements				
Initial UE identity	MP		Initial UE identity 10.3.3.15	
RRC transaction identifier	MP		RRC transaction identifier 10.3.3.36	
Activation time	MD		Activation time 10.3.3.1	Default value is "now"
New U-RNTI	MP		U-RNTI 10.3.3.47	
New C-RNTI	OP		C-RNTI 10.3.3.8	
RRC State Indicator	MP		RRC State Indicator 10.3.3.10	
UTRAN DRX cycle length coefficient	MP		UTRAN DRX cycle length coefficient 10.3.3.49	
Capability update requirement	MD		Capability update requirement 10.3.3.2	Default value is defined in subclause 10.3.3.2
RB Information Elements				
Signalling RB information to setup list	MP	3 to 4		
>Signalling RB information to setup	MP		Signalling RB information to setup 10.3.4.24	
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	MP	1 to <maxTrCH >		Although this IE is not required when the IE "RRC state indicator" is set to "CELL_FACH", need is MP to align with ASN.1
>Added or Reconfigured UL TrCH information	MP		Added or Reconfigured UL TrCH information 10.3.5.2	
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	MP	1 to <maxTrCH >		Although this IE is not required when the IE "RRC state indicator" is set to

Information Element/Group name	Need	Multi	Type and reference	Semantics description
				"CELL_FACH", need is MP to align with ASN.1
>Added or Reconfigured DL TrCH information	MP		Added or Reconfigured DL TrCH information 10.3.5.1	
PhyCH information elements				
Frequency info	MD		Frequency info 10.3.6.36	Default value is the existing value of frequency information
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
<i>CHOICE channel requirement</i>				
>Uplink DPCH info	OP		Uplink DPCH info 10.3.6.88	
>CPCH SET Info			CPCH SET Info 10.3.6.13	
Downlink radio resources				
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	

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
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	
Ciphering mode info	OP		Ciphering mode info 10.3.3.5	
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	
RRC State Indicator	MP		RRC State Indicator 10.3.3.10	
UTRAN DRX cycle length coefficient	<u>MDOP</u>		UTRAN DRX cycle length coefficient 10.3.3.49	<u>Default value is the existing value of UTRAN DRX cycle length coefficient</u>
CN Information Elements				
CN Information info	OP		CN Information info 10.3.1.3	
UTRAN mobility 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>		This IE is needed for each RB having PDCP in the case of lossless SRNS relocation
>>RB with PDCP information	MP		RB with PDCP information 10.3.4.22	
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	

Information Element/Group name	Need	Multi	Type and reference	Semantics description
CHOICE <i>mode</i>	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	MD		Frequency info 10.3.6.36	Default value is the existing value of frequency information
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 <i>channel requirement</i>	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 <i>mode</i>	MP			
>FDD				
>>Downlink PDSCH information	OP		Downlink PDSCH information 10.3.6.30	
>TDD				(no data)
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	

10.2.61 URA UPDATE CONFIRM

This message confirms the URA update procedure and can be used to reallocate new RNTI information for the UE valid after the URA update.

RLC-SAP: UM

Logical channel: CCCH or DCCH

Direction: UTRAN→UE

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Message Type	MP		Message Type	
UE information elements				
U-RNTI	CV-CCCH		U-RNTI 10.3.3.47	
RRC transaction identifier	MP		RRC transaction identifier 10.3.3.36	
Integrity check info	CH		Integrity check info 10.3.3.16	Integrity check info is included if integrity protection is applied
Integrity protection mode info	OP		Integrity protection mode info 10.3.3.19	
Ciphering mode info	OP		Ciphering mode info 10.3.3.5	
New U-RNTI	OP		U-RNTI 10.3.3.47	
New C-RNTI	OP		C-RNTI 10.3.3.8	
RRC State Indicator	MP		RRC State Indicator 10.3.3.10	
UTRAN DRX cycle length coefficient	<u>MDOP</u>		UTRAN DRX cycle length coefficient 10.3.3.49	<u>Default value is the existing value of UTRAN DRX cycle length coefficient</u>
CN Information Elements				
CN Information info	OP		CN Information info 10.3.1.3	
UTRAN mobility 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>		This IE is needed for each RB having PDCP in the case of lossless SRNS relocation
>>RB with PDCP information	MP		RB with PDCP information 10.3.4.22	

Condition	Explanation
<i>CCCH</i>	This IE is mandatory present when CCCH is used and not needed otherwise.

CHANGE REQUEST

⌘ 25.331 CR 1109 ⌘ ev - ⌘ Current version: 4.2.1 ⌘

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

Proposed change affects: ⌘ (U)SIM ME/UE Radio Access Network Core Network

Title: ⌘ Handling of DRX cycle and U-RNTI in RRC connection setup and handling of TrCH information

Source: ⌘ TSG-RAN WG2

Work item code: ⌘ TEI

Date: ⌘ 2001-11-15

Category: ⌘ **A**

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.

Release: ⌘ REL-4

Use one of the following releases:

2 (GSM Phase 2)

R96 (Release 1996)

R97 (Release 1997)

R98 (Release 1998)

R99 (Release 1999)

REL-4 (Release 4)

REL-5 (Release 5)

Reason for change: ⌘ **1) Clause 8.1.3.6**

The description on how the UE should act upon the IE "UTRAN DRX cycle length coefficient" on reception of an RRC CONNECTION SETUP message was missing.

2) Clause 8.1.4.3

The UE can receive the first RRC CONNECTION RELEASE message on CCCH as well as on DCCH. In this Version, 3.8.0, the description on the dependency of IE "U-RNTI" is missing.

In case the UE receives on CCCH it shall act on this message only if IE "U-RNTI" is present and has the same value as the variable U_RNTI.

3) Clauses 8.6.5.5, 8.6.5.7

If the IE "Added or Reconfigured UL TrCH information" or if the IE "Deleted UL TrCH information" is included then the UE shall perform actions for the transport channel identified by the IE "UL Transport Channel Identity". However, the transport channel is identified by the IE "Uplink transport channel type" also.

Summary of change:	<p>⌘ 1) Clause 8.1.3.6 missing description of IE "UTRAN DRX cycle length coefficient" added: ignore IE "UTRAN DRX cycle length coefficient" and stop using DRX; Change Presence for UTRAN DRX cycle length coefficient to be optional rather than MD. The IE "UTRAN DRX cycle length coefficient" should always be included by the network in case the UE ends up in URA_PCH or CELL_PCH state. (section 10)</p> <p>2) Clause 8.1.4.3 added new clarifying text: When the UE receives the first RRC CONNECTION RELEASE message And - if the message is received on the CCCH, and IE "U-RNTI" is present and has the same value as the variable U_RNTI, or; if the message is received on DCCH;</p> <p>3) Clauses 8.6.5.5, 8.6.5.7 Correction on identification of the transport channel because it is identified not only by the IE "UL TrCH identity" but also by the IE "Uplink transport channel type".</p> <p>Isolated Impact Analysis:</p> <ul style="list-style-type: none"> • Correction to a function where the specification was: <ul style="list-style-type: none"> ○ ambiguous or not sufficiently explicit. <p>Would not affect implementations behaving like indicated in the CR, would affect implementations supporting the corrected functionality otherwise.</p> <p>Affected function: UE handling on reception of an RRC CONNECTION SETUP and RRC CONNECTION RELEASE message is clarified. Also the handling on the reception of IE "Added or Reconfigured UL TrCH information" has been corrected.</p>
Consequences if not approved:	⌘ Ambiguous specification

Clauses affected:	⌘ 8.1.3.6, 8.1.4.3, 8.2.2.3, 8.3.1.6, 8.6.5.5, 8.6.5.7, 10.2.8, 10.2.22, 10.2.27, 10.2.30, 10.2.33, 10.2.50, 10.2.61									
Other specs affected:	<table border="0"> <tr> <td style="vertical-align: top;">⌘ <input type="checkbox"/></td> <td>Other core specifications</td> <td style="vertical-align: top;">⌘ 25.331 v3.8.0, CR 1108r1</td> </tr> <tr> <td style="vertical-align: top;"><input type="checkbox"/></td> <td>Test specifications</td> <td></td> </tr> <tr> <td style="vertical-align: top;"><input type="checkbox"/></td> <td>O&M Specifications</td> <td></td> </tr> </table>	⌘ <input type="checkbox"/>	Other core specifications	⌘ 25.331 v3.8.0, CR 1108r1	<input type="checkbox"/>	Test specifications		<input type="checkbox"/>	O&M Specifications	
⌘ <input type="checkbox"/>	Other core specifications	⌘ 25.331 v3.8.0, CR 1108r1								
<input type="checkbox"/>	Test specifications									
<input type="checkbox"/>	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/3G_Specs/CRs.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.

8.1.3.6 Reception of an RRC CONNECTION SETUP message by the UE

The UE shall compare the value of the IE "Initial UE identity" in the received RRC CONNECTION SETUP message with the value of the variable INITIAL_UE_IDENTITY.

If the values are different, the UE shall:

- ignore the rest of the message;

If the values are identical, the UE shall:

- stop timer T300, and act upon all received information elements as specified in subclause 8.6, unless specified otherwise in the following;
 - if the UE will be in the CELL_FACH state at the conclusion of this procedure:
 - if the IE "Frequency info" is included:
 - select a suitable UTRA cell according to [4] on that frequency;
 - select PRACH according to subclause 8.5.17;
 - select Secondary CCPCH according to subclause 8.5.19;
 - ignore the IE "UTRAN DRX cycle length coefficient" and stop using DRX;
 - perform the physical layer synchronisation procedure as specified in [29];
 - enter a state according to subclause 8.6.3.3;
 - submit an RRC CONNECTION SETUP COMPLETE message to the lower layers on the uplink DCCH after successful state transition per subclause 8.6.3.3, with the contents set as specified below:
 - set the IE "RRC transaction identifier" to
 - the value of "RRC transaction identifier" in the entry for the RRC CONNECTION SETUP message in the table "Accepted transactions" in the variable TRANSACTIONS; and
 - clear that entry.
 - if the USIM is present:
 - set the "START" for each CN domain in the IE "START list" in the RRC CONNECTION SETUP COMPLETE message with the corresponding START value that is stored in the USIM [50]; and then
 - set the START value stored in the USIM [50] for any CN domain to the value "THRESHOLD" of the variable START_THRESHOLD;
 - if the USIM is not present:
 - set the "START" for each CN domain in the IE "START list" in the RRC CONNECTION SETUP COMPLETE message to zero;
 - retrieve its UTRA UE radio access capability information elements from variable UE_CAPABILITY_REQUESTED; and then
 - include this in IE "UE radio access capability" and IE "UE radio access capability extension", provided this IE is included in variable UE_CAPABILITY_REQUESTED;
 - retrieve its inter-RAT-specific UE radio access capability information elements from variable UE_CAPABILITY_REQUESTED; and then
 - include this in IE "UE system specific capability".

When the RRC CONNECTION SETUP COMPLETE message has been submitted to lower layers for transmission the UE shall:

- if the UE has entered CELL_FACH state:
 - start timer T305 using its initial value 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 system information block type 1;
 - store the contents of the variable UE_CAPABILITY_REQUESTED into the variable UE_CAPABILITY_TRANSFERRED;
 - initialise variables upon entering UTRA RRC connected mode as specified in subclause 13.4;
 - consider the procedure to be successful;

And the procedure ends.

----- omitted -----

8.1.4.3 Reception of an RRC CONNECTION RELEASE message by the UE

The UE shall receive and act on an RRC CONNECTION RELEASE message in states CELL_DCH and CELL_FACH. Furthermore this procedure can interrupt any ongoing procedures with the UE in the above listed states.

When the UE receives the first RRC CONNECTION RELEASE message; and

- if the message is received on the CCCH, and IE "U-RNTI" is present and has the same value as the variable U_RNTI, or;
- if the message is received on DCCH;

it shall:

- in state CELL_DCH:
 - initialise the counter V308 to zero;
 - set the IE "RRC transaction identifier" in the RRC CONNECTION RELEASE COMPLETE message to the value of "RRC transaction identifier" in the entry for the RRC CONNECTION RELEASE message in the table "Accepted transactions" in the variable TRANSACTIONS; and
 - clear that entry.
 - submit an RRC CONNECTION RELEASE COMPLETE message to the lower layers for transmission using UM RLC on the DCCH to the UTRAN;
 - if the IE "Rplmn information" is present:
 - the UE may:
 - store the IE on the ME together with the PLMN id for which it applies;
 - the UE may then:
 - utilise this information, typically indicating where a number of BCCH frequency ranges of a RAT may be expected to be found, during subsequent Rplmn selections of the indicated PLMN;
 - start timer T308 when the RRC CONNECTION RELEASE COMPLETE message is sent on the radio interface.
- in state CELL_FACH:
 - if the RRC CONNECTION RELEASE message was received on the DCCH:

- set the IE "RRC transaction identifier" in the RRC CONNECTION RELEASE COMPLETE message to the value of "RRC transaction identifier" in the entry for the RRC CONNECTION RELEASE message in the table "Accepted transactions" in the variable TRANSACTIONS; and
- clear that entry;
- submit an RRC CONNECTION RELEASE COMPLETE message to the lower layers for transmission using AM RLC on the DCCH to the UTRAN.
- when the successful transmission of the RRC CONNECTION RELEASE COMPLETE message has been confirmed by the lower layers:
 - release all its radio resources; and
 - indicate the release of the established signalling connections (as stored in the variable ESTABLISHED_SIGNALLING_CONNECTIONS) and established radio access bearers (as stored in the variable ESTABLISHED_RABS) to upper layers; and
 - clear the variable ESTABLISHED_SIGNALLING_CONNECTIONS;
 - clear the variable ESTABLISHED_RABS;
 - pass the value of the IE "Release cause" received in the RRC CONNECTION RELEASE message to upper layers;
 - enter idle mode;
 - perform the actions specified in subclause 8.5.2 when entering idle mode;
- and the procedure ends.
- if the RRC CONNECTION RELEASE message was received on the CCCH:
 - release all its radio resources;
 - indicate the release of the established signalling connections (as stored in the variable ESTABLISHED_SIGNALLING_CONNECTIONS) and established radio access bearers (as stored in the variable ESTABLISHED_RABS) to the upper layers;
 - clear the variable ESTABLISHED_SIGNALLING_CONNECTIONS;
 - clear the variable ESTABLISHED_RABS;
 - pass the value of the IE "Release cause" received in the RRC CONNECTION RELEASE message to upper layers;
 - enter idle mode;
 - perform the actions specified in subclause 8.5.2 when entering idle mode;
- and the procedure ends.

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 be able to receive any of the following messages:

- RADIO BEARER SETUP message; or
- RADIO BEARER RECONFIGURATION message; or
- RADIO BEARER RELEASE message; or
- TRANSPORT CHANNEL RECONFIGURATION message; or
- PHYSICAL CHANNEL RECONFIGURATION message

and perform a hard handover, even if no prior UE measurements have been performed on the target cell and/or frequency.

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:

- set the variable ORDERED_RECONFIGURATION to TRUE;
- perform the physical layer synchronisation procedure as specified in [29];
- 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 first release the physical channel configuration used at reception of the reconfiguration message. The UE shall then:

- 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:
 - act upon the IE "PDSCH code mapping" as specified in subclause 8.6 and;
 - infer that the PDSCH will be transmitted from the cell from which the downlink DPCH is transmitted;
- 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:

- 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:

- remove any C-RNTI from MAC;
- clear the variable C_RNTI.

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

- if the IE "UL DPCH Info" is absent, not change its current UL Physical channel configuration;
- if the IE "DL DPCH Info for each RL" is absent, not change its current DL Physical channel configuration.

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

- if the IE "Frequency info" is included in the received reconfiguration message:
 - select a suitable UTRA cell according to [4] on that frequency;
- if the IE "Frequency info" is not included in the received reconfiguration message:
 - select a suitable UTRA cell according to [4];
- 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):
 - initiate a cell update procedure according to subclause 8.3.1 using the cause "Cell reselection";
 - when the cell update procedure completed successfully:
 - 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";
 - proceed as below;
- 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 system information block type 1;
- select PRACH according to subclause 8.5.17;
- select Secondary CCPCH according to subclause 8.5.19;
- use the transport format set given in system information;
- if the IE "UTRAN DRX cycle length coefficient" is included in the same message:
 - ignore that IE and stop using DRX;
- if the contents of the variable C_RNTI is empty:
 - perform a cell update procedure according to subclause 8.3.1 using the cause "Cell reselection";
 - when the cell update procedure completed successfully:
 - 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";
 - proceed as below;

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:

- if the received reconfiguration message included the IE "Downlink counter synchronisation info":
 - re-establish RB2;
 - increment by one the downlink and uplink HFN values for RB2;

- calculate the START value according to subclause 8.5.9;
- include the calculated START values for each CN domain in the IE "START list" in the IE "Uplink counter synchronisation info";
- if the received reconfiguration message did not include the IE "Downlink counter synchronisation info":
 - if the variable START_VALUE_TO_TRANSMIT is set:
 - include and set the IE "START" to the value of that variable;
 - if the variable START_VALUE_TO_TRANSMIT is not set and the IE "New U-RNTI" is included:
 - calculate the START value according to subclause 8.5.9;
 - include the calculated START values for each CN domain in the IE "START list" in the IE "Uplink counter synchronisation info";
- if the received reconfiguration message contained the IE "Ciphering mode info":
 - include and set the IE "Radio bearer uplink ciphering activation time info" to the value of the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO;
- if the received reconfiguration message contained the IE "Integrity protection mode info" with the IE "Integrity protection mode command" set to "Modify":
 - include and set the IE "Integrity protection activation info" to the value of the variable INTEGRITY_PROTECTION_ACTIVATION_INFO;
- if the received reconfiguration message did not contain the IE "Ciphering activation time for DPCH" in IE "Ciphering mode info":
 - if prior to this procedure there exist no transparent mode RLC radio bearers:
 - if, at the conclusion of this procedure, the UE will be in CELL_DCH state; and
 - if, at the conclusion of this procedure, at least one transparent mode RLC radio bearer exists:
 - include the IE "COUNT-C activation time" and specify a CFN value other than the default, "Now", for this IE;
 - if prior to this procedure there exists at least one transparent mode RLC radio bearer:
 - if, at the conclusion of this procedure, no transparent mode RLC radio bearers exist:
 - include the IE "COUNT-C activation time" in the response message and specify a CFN value other than the default, "Now", for this IE;
- 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
- clear that entry;
- if the variable PDCP_SN_INFO is not empty:
 - include the IE "RB with PDCP information list" and set it to the value of the variable PDCP_SN_INFO;
- 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):
 - set the IE "Uplink Timing Advance" according to subclause 8.6.6.26;
- if the IE "Integrity protection mode info" was present in the received reconfiguration message:
 - 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 CELL_PCH or URA_PCH state, the UE shall, after the state transition and transmission of the response message:

- if the IE "Frequency info" is included in the received reconfiguration message:
 - select a suitable UTRA cell according to [4] on that frequency;
- if the IE "Frequency info" is not included in the received reconfiguration message:
 - select a suitable UTRA cell according to [4];
- prohibit periodical status transmission in RLC;
- remove any C-RNTI from MAC;
- clear the variable C_RNTI;
- 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 system information block type 1;
- select Secondary CCPCH according to subclause 8.5.19;
- if the IE "UTRAN DRX cycle length coefficient" is included in the same message:
 - 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;
- if the IE "UTRAN DRX cycle length coefficient" is not included in the same message:
 - set the variable INVALID_CONFIGURATION to TRUE;
- if the UE enters CELL_PCH state from CELL_DCH state, and 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):
 - initiate a cell update procedure according to subclause 8.3.1 using the cause "cell reselection";
 - when the cell update procedure completed successfully:
 - the procedure ends;
- if the UE enters CELL_PCH state from CELL_FACH state, and 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:
 - initiate a cell update procedure according to subclause 8.3.1 using the cause "cell reselection";
 - when the cell update procedure is successfully completed:
 - the procedure ends;
- if the UE enters URA_PCH state, and after cell selection the criteria for URA update caused by "URA reselection" according to subclause 8.3.1 is fulfilled:
 - initiate a URA update procedure according to subclause 8.3.1 using the cause "URA reselection";
 - when the URA update procedure is successfully completed:
 - the procedure ends.

8.3.1.6 Reception of the CELL UPDATE CONFIRM/URA UPDATE CONFIRM message by the UE

When the UE receives a CELL UPDATE CONFIRM/URA UPDATE CONFIRM message; and

- if the message is received on the CCCH, and IE "U-RNTI" is present and has the same value as the variable U_RNTI, or;
- if the message is received on DCCH;

the UE shall:

- stop timer T302;
- in case of a cell update procedure and the CELL UPDATE CONFIRM message:
 - includes "RB information elements"; and/or
 - includes "Transport channel information elements"; and/or
 - includes "Physical channel information elements"; and
 - if the variable ORDERED_RECONFIGURATION is set to FALSE:
 - set the variable ORDERED_RECONFIGURATION to TRUE;
- act upon all received information elements as specified in subclause 8.6, unless specified otherwise in the following:
 - use the transport channel(s) applicable for the physical channel types that is used; and
 - if the IE "TFS" is neither included nor previously stored in the UE for that transport channel(s):
 - use the TFS given in system information.
 - if none of the TFS stored is compatible with the physical channel:
 - delete the stored TFS;
 - use the TFS given in system information.
 - perform the physical layer synchronisation procedure as specified in [29];
 - if the CELL UPDATE CONFIRM message includes the IE "RLC re-establish indicator (RB2, RB3 and RB4)":
 - re-establish the RLC entities for signalling radio bearer RB2, signalling radio bearer RB3 and signalling radio bearer RB4 (if established);
 - if the value of the IE "Status" in the variable CIPHERING_STATUS of the CN domain stored in the variable LATEST_CONFIGURED_CN_DOMAIN is set to "Started":
 - set the HFN values for AM RLC entities with RB identity 2, RB identity 3 and RB identity 4 (if established) equal to the START value included in the latest transmitted CELL UPDATE message for the CN domain stored in the variable LATEST_CONFIGURED_CN_DOMAIN;
 - if the CELL UPDATE CONFIRM message includes the IE "RLC re-establish indicator (RB>4)":
 - for radio bearers with RB identity larger than 4:
 - re-establish the AM RLC entities;
 - if the value of the IE "Status" in the variable CIPHERING_STATUS of the CN domain as indicated in the IE "CN domain identity" in the IE "RAB info" in the variable ESTABLISHED_RABS is set to "Started":

- set the HFN values for AM RLC entities equal to the START value included in this CELL UPDATE message for the CN domain as indicated in the IE "CN domain identity" in the IE "RAB info" in the variable ESTABLISHED_RABS;
- enter a state according to subclause 8.6.3.3 applied on the CELL UPDATE CONFIRM / URA UPDATE CONFIRM message.

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

- not prohibit periodical status transmission in RLC.

If the UE after state transition remains in CELL_FACH state, it shall

- start the timer T305 using its initial value if timer T305 is not running and periodical cell update has been configured by T305 in the IE "UE Timers and constants in connected mode" set to any other value than "infinity";
- select PRACH according to subclause 8.5.17;
- select Secondary CCPCH according to subclause 8.5.19;
- not prohibit periodical status transmission in RLC;
- if the IE "UTRAN DRX cycle length coefficient" is included in the same message:
 - ignore that IE and stop using DRX;

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

- prohibit periodical status transmission in RLC;
- clear the variable C_RNTI;
- stop using that C_RNTI just cleared from the variable C_RNTI in MAC;
- start the timer T305 using its initial value if timer T305 is not running and periodical update has been configured by T305 in the IE "UE Timers and constants in connected mode" set to any other value than "infinity";
- select Secondary CCPCH according to subclause 8.5.19;
- if the IE "UTRAN DRX cycle length coefficient" is included in the same message:
 - 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 in CELL_PCH state.

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

- set the variable INVALID_CONFIGURATION to TRUE;

If the UE after the state transition remains in CELL_FACH state and;

- the contents of the variable C_RNTI are empty;

it shall check the value of V302 and

- If V302 is equal to or smaller than N302:
 - if, caused by the received CELL UPDATE CONFIRM or URA UPDATE CONFIRM message,
 - the IE "Reconfiguration" in the variable CIPHERING_STATUS is set to TRUE; and/or
 - the IE "Reconfiguration" in the variable INTEGRITY_PROTECTION_INFO is set to TRUE:
 - abort the ongoing integrity and/or ciphering reconfiguration;
 - if the received CELL UPDATE CONFIRM or URA UPDATE CONFIRM message contained the IE "Ciphering mode info":

- set the IE "Reconfiguration" in the variable CIPHERING_STATUS to FALSE; and
- clear the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO;
- if the received CELL UPDATE CONFIRM or URA UPDATE CONFIRM message contained the IE "Integrity protection mode info":
 - set the IE "Reconfiguration" in the variable INTEGRITY_PROTECTION_INFO to FALSE; and
 - clear the variable INTEGRITY_PROTECTION_ACTIVATION_INFO;
- in case of a URA update procedure:
 - stop the URA update procedure; and
 - continue with a cell update procedure;
- set the contents of the CELL UPDATE message according to subclause 8.3.1.3, except for the IE "Cell update cause" which shall be set to "cell reselection";
- submit the CELL UPDATE message for transmission on the uplink CCCH;
- increment counter V302;
- restart timer T302 when the MAC layer indicates success or failure to transmit the message;
- If V302 is greater than N302:
 - clear the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO;
 - clear the variable INTEGRITY_PROTECTION_ACTIVATION_INFO;
 - in case of a cell update procedure:
 - clear the entry for the CELL UPDATE CONFIRM message in the table "Rejected transactions" in the variable TRANSACTIONS;
 - in case of a URA update procedure:
 - clear the entry for the URA UPDATE CONFIRM message in the table "Rejected transactions" in the variable TRANSACTIONS;
 - release all its radio resources;
 - indicate release (abort) of the established signalling connections (as stored in the variable ESTABLISHED_SIGNALLING_CONNECTIONS) and established radio access bearers (as stored in the variable ESTABLISHED_RABS) to upper layers;
 - clear the variable ESTABLISHED_SIGNALLING_CONNECTIONS;
 - clear the variable ESTABLISHED_RABS;
 - enter idle mode;
 - other actions the UE shall perform when entering idle mode from connected mode are specified in subclause 8.5.2;
 - and the procedure ends.

If the UE after the state transition remains in CELL_FACH state and

- a C-RNTI is stored in the variable C_RNTI;

or

the UE after the state transition moves to another state than the CELL_FACH state;

the UE shall:

- if the CELL UPDATE CONFIRM / URA UPDATE CONFIRM message contained the IE "Ciphering mode info":
 - include and set the IE "Radio bearer uplink ciphering activation time info" in any response message transmitted below to the value of the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO.
- if the CELL UPDATE CONFIRM / URA UPDATE CONFIRM message contained the IE "Integrity protection mode info" with the IE "Integrity protection mode command" set to "Modify":
 - include and set the IE "Integrity protection activation info" in any response message transmitted below to the value of the variable INTEGRITY_PROTECTION_ACTIVATION_INFO;
- in case of a cell update procedure:
 - set the IE "RRC transaction identifier" in any response message transmitted below to the value of "RRC transaction identifier" in the entry for the CELL UPDATE CONFIRM message in the table "Accepted transactions" in the variable TRANSACTIONS; and
 - clear that entry.
- in case of a URA update procedure:
 - set the IE "RRC transaction identifier" in any response message transmitted below to the value of "RRC transaction identifier" in the entry for the URA UPDATE CONFIRM message in the table "Accepted transactions" in the variable TRANSACTIONS; and
 - clear that entry;
- if the variable PDCP_SN_INFO is non-empty:
 - include the IE "RB with PDCP information list" in any response message transmitted below and set it to the value of the variable PDCP_SN_INFO;
- if the received CELL UPDATE CONFIRM or URA UPDATE CONFIRM message included the IE "Downlink counter synchronisation info":
 - calculate the START value according to subclause 8.5.9;
 - include the calculated START values for each CN domain in the IE "START list" in the IE "Uplink counter synchronisation info" in any response message transmitted below;
- transmit a response message as specified in subclause 8.3.1.7;
- if the IE "Integrity protection mode info" was present in the CELL UPDATE CONFIRM or URA UPDATE CONFIRM message:
 - start applying the new integrity protection configuration in the uplink for signalling radio bearer RB2 from and including the transmitted response message;
- if the variable ORDERED_RECONFIGURATION is set to TRUE caused by the received CELL UPDATE CONFIRM message in case of a cell update procedure:
 - set the variable ORDERED_RECONFIGURATION to FALSE;
- clear the variable PDCP_SN_INFO;
- if the CELL UPDATE CONFIRM / URA UPDATE CONFIRM message contained the IE "Ciphering mode info":
 - set the IE "Reconfiguration" in the variable CIPHERING_STATUS to FALSE; and
 - clear the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO;
- if the CELL UPDATE CONFIRM / URA UPDATE CONFIRM message contained the IE "Integrity protection mode info":
 - set the IE "Reconfiguration" in the variable INTEGRITY_PROTECTION_INFO to FALSE; and

- clear the variable INTEGRITY_PROTECTION_ACTIVATION_INFO;
- in case of a cell update procedure:
 - clear the entry for the CELL UPDATE CONFIRM message in the table "Rejected transactions" in the variable TRANSACTIONS;
- in case of a URA update procedure:
 - clear the entry for the URA UPDATE CONFIRM message in the table "Rejected transactions" in the variable TRANSACTIONS;
- set the variable CELL_UPDATE_STARTED to FALSE;

The procedure ends.

8.6.5.5 Added or Reconfigured UL TrCH information

If the IE "Added or Reconfigured UL TrCH information" is included then the UE shall:

- for the transport channel identified by the IE "UL Transport Channel Identity" and IE "Uplink transport channel type":
- perform the actions for the IE "Transport Format Set" as specified in subclause 8.6.5.1.

----- omitted -----

8.6.5.7 Deleted UL TrCH information

If the IE "Deleted UL TrCH information" is included the UE shall:

- delete any information about the transport channel identified by the IE "UL TrCH identity" and IE "Uplink transport channel type".

10.2.8 CELL UPDATE CONFIRM

This message confirms the cell update procedure and can be used to reallocate new RNTI information for the UE valid in the new cell.

RLC-SAP: UM

Logical channel: CCCH or DCCH

Direction: UTRAN→UE

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Message Type	MP		Message Type	
UE Information Elements				
U-RNTI	CV-CCCH		U-RNTI 10.3.3.47	
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	
Ciphering mode info	OP		Ciphering mode info 10.3.3.5	
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	
RRC State Indicator	MP		RRC State Indicator 10.3.3.10	
UTRAN DRX cycle length coefficient	<u>MDOP</u>		UTRAN DRX cycle length coefficient 10.3.3.49	<u>Default value is the existing DRX cycle length coefficient</u>
RLC re-establish indicator (RB2, RB3 and RB4)	MP		RLC re-establish indicator 10.3.3.35	
RLC re-establish indicator (RB5 and upwards)	MP		RLC re-establish indicator 10.3.3.35	
CN Information Elements				
CN Information info	OP		CN Information info 10.3.1.3	
UTRAN Information Elements				
URA identity	OP		URA identity 10.3.2.6	
RB information elements				
RB information to release list	OP	1 to <maxRB>		
>RB information to release	MP		RB information to release 10.3.4.19	
RB information to reconfigure list	OP	1 to <maxRB>		
>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	

Information Element/Group name	Need	Multi	Type and reference	Semantics description
			to be affected 10.3.4.17	
Downlink counter synchronisation info	OP			
>RB with PDCP information list	OP	1 to <maxRBall RABs>		This IE is needed for each RB having PDCP in the case of lossless SRNS relocation
>>RB with PDCP information	MP		RB with PDCP information 10.3.4.22	
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 <i>mode</i>	MP			
>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 >		

Information Element/Group name	Need	Multi	Type and reference	Semantics description
>Added or Reconfigured DL TrCH information	MP		Added or Reconfigured DL TrCH information 10.3.5.1	
PhyCH information elements				
Frequency info	MD		Frequency info 10.3.6.36	Default value is the existing value of frequency information
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				
>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 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	

Condition	Explanation
CCCH	This IE is mandatory present when CCCH is used and ciphering is not required and not needed otherwise.

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
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	
Ciphering mode info	OP		Ciphering mode info 10.3.3.5	
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	
RRC State Indicator	MP		RRC State Indicator 10.3.3.10	
UTRAN DRX cycle length coefficient	OPMD		UTRAN DRX cycle length coefficient 10.3.3.49	Default value is the existing value of UTRAN DRX cycle length coefficient
CN Information Elements				
CN Information info	OP		CN Information info 10.3.1.3	
UTRAN mobility 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>		This IE is needed for each RB having PDCP in the case of lossless SRNS relocation
>>RB with PDCP information	MP		RB with PDCP information 10.3.4.22	
PhyCH information elements				
Frequency info	MD		Frequency info 10.3.6.36	Default value is the existing value of frequency information
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				
>Uplink DPCH info	OP		Uplink DPCH info 10.3.6.88	
>CPCH SET Info			CPCH SET Info 10.3.6.13	
>CPCH set ID			CPCH set ID	

Information Element/Group name	Need	Multi	Type and reference	Semantics description
			10.3.5.3	
Downlink radio resources				
CHOICE <i>mode</i>	MP			
>FDD				
>>Downlink PDSCH information	OP		Downlink PDSCH information 10.3.6.30	
>TDD				(no data)
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.

RLC-SAP: AM or UM

Logical channel: DCCH

Direction: UTRAN → UE

Information Element/Group name	Need	Multi	Type and reference	Semantics description
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	
Ciphering mode info	OP		Ciphering mode info 10.3.3.5	
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	
RRC State Indicator	MP		RRC State Indicator 10.3.3.10	
UTRAN DRX cycle length coefficient	<u>MDOP</u>		UTRAN DRX cycle length coefficient 10.3.3.49	<u>Default value is the existing value of UTRAN DRX cycle length coefficient</u>
CN information elements				
CN Information info	OP		CN Information info 10.3.1.3	
UTRAN mobility information elements				
URA identity	OP		URA identity 10.3.2.6	
RB information elements				
RAB information to reconfigure list	OP	1 to <maxRABse tup >		
>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
>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	
TrCH Information Elements				
Uplink transport channels				
UL Transport channel	OP		UL Transport	

Information Element/Group name	Need	Multi	Type and reference	Semantics description
information common for all transport channels			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 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	
PhyCH information elements				
Frequency info	MD		Frequency info 10.3.6.36	Default value is the existing value of frequency information
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			

Information Element/Group name	Need	Multi	Type and reference	Semantics description
>Uplink DPCH info			Uplink DPCH info 10.3.6.88	
>CPCH SET Info			CPCH SET Info 10.3.6.13	
Downlink radio resources				
CHOICE <i>mode</i>	MP			
>FDD				
>>Downlink PDSCH information	OP		Downlink PDSCH information 10.3.6.30	
>TDD				(no data)
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
>Downlink information for each radio link	MP		Downlink information for each radio link 10.3.6.27	

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
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	
Ciphering mode info	OP		Ciphering mode info 10.3.3.5	
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	
RRC State Indicator	MP		RRC State Indicator 10.3.3.10	
UTRAN DRX cycle length coefficient	<u>MDOP</u>		UTRAN DRX cycle length coefficient 10.3.3.49	<u>Default value is the existing value of UTRAN DRX cycle length coefficient</u>
CN Information Elements				
CN Information info	OP		CN Information info 10.3.1.3	
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 <maxRABse tup >		
>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
>RB with PDCP information list	OP	1 to <maxRBall RABs>		This IE is needed for each RB having PDCP in the case of lossless SRNS relocation
>>RB with PDCP information	MP		RB with PDCP information 10.3.4.22	
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 <i>mode</i>	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	

Information Element/Group name	Need	Multi	Type and reference	Semantics description
PhyCH information elements				
Frequency info	MD		Frequency info 10.3.6.36	Default value is the existing value of frequency information
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
<i>CHOICE channel requirement</i>				
>Uplink DPCH info			Uplink DPCH info 10.3.6.88	
>CPCH SET Info			CPCH SET Info 10.3.6.13	
Downlink radio resources				
<i>CHOICE mode</i>				
>FDD	MP			
>>Downlink PDSCH information	OP		Downlink PDSCH information 10.3.6.30	
>TDD				(no data)
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	

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
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	
Ciphering mode info	OP		Ciphering mode info 10.3.3.5	
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	
RRC State Indicator	MP		RRC State Indicator 10.3.3.10	
UTRAN DRX cycle length coefficient	<u>MDOP</u>		UTRAN DRX cycle length coefficient 10.3.3.49	<u>Default value is the existing value of UTRAN DRX cycle length coefficient</u>
CN Information Elements				
CN Information info	OP		CN Information info 10.3.1.3	
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 <maxSRBs etup>		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 <maxRABs etup>		For each RAB established
>RAB information for setup	MP		RAB 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		This IE is needed for each RB having PDCP in the case of

Information Element/Group name	Need	Multi	Type and reference	Semantics description
		RABs>		lossless SRNS relocation
>>RB with PDCP information	MP		RB with PDCP information 10.3.4.22	
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 <i>mode</i>	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	
PhyCH information elements				
Frequency info	MD		Frequency	Default value is the existing

Information Element/Group name	Need	Multi	Type and reference	Semantics description
			info 10.3.6.36	value of frequency information
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 <i>channel requirement</i>	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 <i>mode</i>	MP			
>FDD				
>>Downlink PDSCH information	OP		Downlink PDSCH information 10.3.6.30	
>TDD				(no data)
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	

10.2.40 RRC CONNECTION SETUP

This message is used by the network to accept the establishment of an RRC connection for an UE, including assignment of signalling link information, transport channel information and optionally physical channel information.

RLC-SAP: UM

Logical channel: CCCH

Direction: UTRAN → UE

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Message Type	MP		Message Type	
UE Information Elements				
Initial UE identity	MP		Initial UE identity 10.3.3.15	
RRC transaction identifier	MP		RRC transaction identifier 10.3.3.36	
Activation time	MD		Activation time 10.3.3.1	Default value is "now"
New U-RNTI	MP		U-RNTI 10.3.3.47	
New C-RNTI	OP		C-RNTI 10.3.3.8	
RRC State Indicator	MP		RRC State Indicator 10.3.3.10	
UTRAN DRX cycle length coefficient	MP		UTRAN DRX cycle length coefficient 10.3.3.49	
Capability update requirement	MD		Capability update requirement 10.3.3.2	Default value is defined in subclause 10.3.3.2
RB Information Elements				
Signalling RB information to setup list	MP	3 to 4		
>Signalling RB information to setup	MP		Signalling RB information to setup 10.3.4.24	
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	MP	1 to <maxTrCH >		Although this IE is not required when the IE "RRC state indicator" is set to "CELL_FACH", need is MP to align with ASN.1
>Added or Reconfigured UL TrCH information	MP		Added or Reconfigured UL TrCH information 10.3.5.2	
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	MP	1 to <maxTrCH >		Although this IE is not required when the IE "RRC state indicator" is set to

Information Element/Group name	Need	Multi	Type and reference	Semantics description
				"CELL_FACH", need is MP to align with ASN.1
>Added or Reconfigured DL TrCH information	MP		Added or Reconfigured DL TrCH information 10.3.5.1	
PhyCH information elements				
Frequency info	MD		Frequency info 10.3.6.36	Default value is the existing value of frequency information
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
<i>CHOICE channel requirement</i>				
>Uplink DPCH info	OP		Uplink DPCH info 10.3.6.88	
>CPCH SET Info			CPCH SET Info 10.3.6.13	
Downlink radio resources				
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	

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
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	
Ciphering mode info	OP		Ciphering mode info 10.3.3.5	
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	
RRC State Indicator	MP		RRC State Indicator 10.3.3.10	
UTRAN DRX cycle length coefficient	<u>MDOP</u>		UTRAN DRX cycle length coefficient 10.3.3.49	<u>Default value is the existing value of UTRAN DRX cycle length coefficient</u>
CN Information Elements				
CN Information info	OP		CN Information info 10.3.1.3	
UTRAN mobility 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>		This IE is needed for each RB having PDCP in the case of lossless SRNS relocation
>>RB with PDCP information	MP		RB with PDCP information 10.3.4.22	
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	

Information Element/Group name	Need	Multi	Type and reference	Semantics description
CHOICE <i>mode</i>	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	MD		Frequency info 10.3.6.36	Default value is the existing value of frequency information
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 <i>channel requirement</i>	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 <i>mode</i>	MP			
>FDD				
>>>Downlink PDSCH information	OP		Downlink PDSCH information 10.3.6.30	
>TDD				(no data)
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	

10.2.61 URA UPDATE CONFIRM

This message confirms the URA update procedure and can be used to reallocate new RNTI information for the UE valid after the URA update.

RLC-SAP: UM

Logical channel: CCCH or DCCH

Direction: UTRAN→UE

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Message Type	MP		Message Type	
UE information elements				
U-RNTI	CV-CCCH		U-RNTI 10.3.3.47	
RRC transaction identifier	MP		RRC transaction identifier 10.3.3.36	
Integrity check info	CH		Integrity check info 10.3.3.16	Integrity check info is included if integrity protection is applied
Integrity protection mode info	OP		Integrity protection mode info 10.3.3.19	
Ciphering mode info	OP		Ciphering mode info 10.3.3.5	
New U-RNTI	OP		U-RNTI 10.3.3.47	
New C-RNTI	OP		C-RNTI 10.3.3.8	
RRC State Indicator	MP		RRC State Indicator 10.3.3.10	
UTRAN DRX cycle length coefficient	<u>MDOP</u>		UTRAN DRX cycle length coefficient 10.3.3.49	<u>Default value is the existing value of UTRAN DRX cycle length coefficient</u>
CN Information Elements				
CN Information info	OP		CN Information info 10.3.1.3	
UTRAN mobility 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>		This IE is needed for each RB having PDCP in the case of lossless SRNS relocation
>>RB with PDCP information	MP		RB with PDCP information 10.3.4.22	

Condition	Explanation
<i>CCCH</i>	This IE is mandatory present when CCCH is used and not needed otherwise.

CHANGE REQUEST

⌘ **25.331 CR 1110** ⌘ ev **r1** ⌘ Current version: **3.8.0** ⌘

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

Proposed change affects: ⌘ (U)SIM ME/UE Radio Access Network Core Network

Title:	⌘ Correction to Information Element names		
Source:	⌘ TSG-RAN WG2		
Work item code:	⌘ TEI	Date:	⌘ 19.11.2001
Category:	⌘ F	Release:	⌘ R99
	<i>Use <u>one</u> of the following categories:</i> 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 .		<i>Use <u>one</u> of the following releases:</i> 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)

Reason for change: ⌘ To make sure that the procedure description works properly it is necessary that all IEs and UE variables used are spelled same and usage is described clearly, when they are used. In this document some inconsistencies are pointed out and necessary solutions are introduced.

Furthermore (clause 8.2.10.3) the IE "Constant value" does not exist and according to tabular rather IEs "PRACH Constant Value" and "PUSCH Constant Value" should be taken into account by the UE for uplink open loop power control

In the clauses 8.6.4.1 and 8.6.4.3 both the IE "Signalling RB information to setup" and the IE "RB information to setup" contain a choice between the IE "RLC info" and the IE "Same as RB". However, only the dependency on the IE "RLC info" was described.

Summary of change: ⌘ **Aligning names throughout the specification and minor corrections:**

Name: IE "U-RNTI" IE "Activation time for DPCH" IE "additional measurements" IE "Autonomous Set Update" IE "BCCH modification information" IE "BCCH Modification Information" IE "Cell for measurements" Cell_selection_and_reselection_quality_measure IE "Code Word Length" IE "Downlink DPCH info common for all radio links " RL" IE "Downlink DPCH info common for all RL" radio links"	is replaced by: IE "New U-RNTI" IE "Ciphering activation time for DPCH" IE "Additional measurements list" IE "UE autonomous update mode" IE "BCCH modification info" IE "BCCH modification info" IE "Cells for measurement" Cell selection and reselection quality measure IE "Code Word Set" IE "Downlink DPCH info common for all RL" IE "Downlink DPCH info common for all radio links"
--	--

IE "FACH Measurement occasion length coefficient"	IE "FACH Measurement occasion cycle length coefficient"
IE "Intra-Frequency measurement reporting quantity"	IE "Intra-Frequency reporting quantity"
New Intra-frequency cell	New Intra-frequency cells
IE "OTDOA ciphering info"	IE "OTDOA Data ciphering info"
IE "Primary CPICH DL TX power"	IE "Primary CPICH TX power"
Primary CPICH DL TX power	Primary CPICH TX power
IE "Reporting information for CELL_DCH"	IE "Reporting information for state CELL_DCH"
IE "RLC re-establish indicator (RB>4)"	IE "RLC re-establish indicator (RB5 and upwards)"
IE "RLC size index list"	IE "Explicit list"
IE "Target cell info"	IE "Target cell description"
IE "TFCI combining set"	IE "TFCI(field2) combining set"
IE "Timing indicator"	IE "Timing indication"
IE "Traffic volume measurements system information"	IE "Traffic volume measurement system information"
IE "UE autonomous update set"	IE "UE autonomous update mode"
IE "UE positioning GPS real time integrity"	IE "UE positioning GPS real-time integrity"
IE "UE positioning OTDOA neighbouring cell list"	IE "UE positioning OTDOA neighbour cell list"
IE "UE positioning reference time"	IE "UE positioning GPS reference time"
IE "UL DPCH Info"	IE "Uplink DPCH Info"
IE "UL DPCH Power Control Info"	IE "Uplink DPCH Power Control Info"
IE "UTRAN estimated quantity"	IE "UTRAN estimated quality"
SECURITY MODE CONTROL	SECURITY MODE COMMAND
INTEGRITY_PROTECTION_STATUS	INTEGRITY_PROTECTION_INFO
IE "Intra-frequency/Inter-frequency/Inter-RAT cell info list"	IE "Intra-frequency cell info list"/"Inter-frequency cell info list"/"Inter-RAT cell info list"
"Integrity protection activation info"	"Uplink integrity protection activation info"
UL Special Burst generation period	„Special Burst Generation Period"
Inter-RAT change failure	Inter-RAT handover failure
failure cause	Inter-RAT change failure
inter system measurements	inter-RAT measurements

In the clause 8.6.2.1 missing "if" is added into the text:

the IE "RRC State Indicator" is included and set to "URA_PCH":
- if the IE "RRC State Indicator" is included and set to "URA_PCH":

In procedure description in clause 8.2.10.3, the name of IE "Constant value" was replaced with relevant IE "PRACH Constant Value" and IE "PUSCH Constant Value" according to tabular.

In clauses 8.6.4.1, 8.6.4.3 the description for IE "Same as RB" is added:

- if the IE "Uplink RLC mode" or the IE "Downlink RLC mode" either in the IE "RLC info" or referenced by the RB identity in the IE "Same as RB" is set to "AM RLC" or "UM RLC":
- if the IE "Downlink RLC mode" either in the IE "RLC info" or referenced by the RB identity in the IE "Same as RB" is set to "TM RLC":

- if the IE "Uplink RLC mode" or the IE "Downlink RLC mode" either in the IE "RLC info" or referenced by the RB identity in the IE "Same as RB" is set to "AM RLC" or "UM RLC":

Isolated Impact Analysis:

- Correction to a function where the specification was:
 - ambiguous or not sufficiently explicit.

Would not affect implementations behaving like indicated in the CR, would affect implementations supporting the corrected functionality otherwise.

Affected function:

The CR intends to correct some misalignments between tabular form and procedural descriptions in 25.331 and has isolated impact.

Consequences if not approved: ☹ Procedural descriptions may be not sufficiently clear and ambiguous.

Clauses affected: ☹ 8.1.1.6.11, 8.1.1.6.12, 8.1.1.6.15.4, 8.1.1.7.2, 8.1.12.3, 8.1.2.2, 8.2.2.3, 8.2.2.7, 8.2.10.3, 8.3.1.6, 8.3.3.3, 8.3.4.3, 8.3.6.2, 8.3.7.5, 8.3.7.8, 8.3.7.8a, 8.3.11.3, 8.3.11.7, 8.4.1.7.1, 8.4.1.9.4, 8.4.2.2, 8.5.7, 8.5.11, 8.6.2.1, 8.6.3.4, 8.6.3.5, 8.6.4.1, 8.6.4.3, 8.6.4.8, 8.6.6.9, 8.6.6.25, 8.6.6.27, 8.6.6.28, 8.6.7.6, 8.6.7.12, 8.6.7.14, 8.6.7.19.2, 8.6.7.19.3.1, 10.2.45, 10.3.2.3, 10.3.2.4, 10.3.6.11, 10.3.7.10, 10.3.7.33, 10.3.7.47, 14.3.1, 14.11.1

Other specs affected: ☹ Other core specifications ☹ 25.331 v4.2.1, CR 1111
 Test specifications
 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/3G_Specs/CRs.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.

8.1.1.6.11 System Information Block type 11

The UE should store all relevant IEs included in this system information block. The UE shall:

- if IE "FACH measurement occasion info" is included:
 - act as specified in subclause 8.6.7.
- else:
 - may perform inter-frequency/inter-RAT measurements or inter-frequency/inter-RAT cell re-selection evaluation, if the UE capabilities permit such measurements while simultaneously receiving the S-CCPCH of the serving cell;
- if in connected mode, and System Information Block type 12 is indicated as used in the cell:
 - read and act on information sent in System Information Block type 12;
- for each measurement type:
 - start a measurement using the set of IEs specified for that measurement type;
- associate each measurement with the identity number given by the IE "Measurement identity";
- clear the variable CELL_INFO_LIST;
- act upon the received ~~IE "Intra-frequency/Inter-frequency/Inter-RAT cell info list"~~ IE "Intra-frequency cell info list" / "Inter-frequency cell info list" / "Inter-RAT cell info list" as described in subclause 8.6.7.3;
- if included, store the IE "Intra-frequency reporting quantity" and the IE "Intra-frequency measurement reporting criteria" or "Periodical reporting criteria" in order to activate reporting when state CELL_DCH is entered;
- if IE "Use of HCS" is set to "used", indicating that HCS is used, do the following:
 - if IE "HCS neighbouring cell information" is not included in the first occurrence of IE "Intra-frequency cell info list":
 - use the default values specified for the IE "HCS neighbouring cell information" for that cell;
 - if IE "HCS neighbouring cell information" is not included in other occurrence of IE "Intra-frequency cell info list":
 - for that cell use the same parameter values as used for the preceding IE "Intra-frequency cell info list";
 - if IE "HCS neighbouring cell information" is not included in the first occurrence of IE "Inter-frequency cell info list":
 - use the default values specified for the IE "HCS neighbouring cell information" for that cell;
 - if IE "HCS neighbouring cell information" is not included in other occurrence of IE "Inter-frequency cell info list":
 - for that cell use the same parameter values as used for the preceding IE "Inter-frequency cell info list";
 - if IE "HCS neighbouring cell information" is not included in the first occurrence of IE "Inter-RAT Cell info list":
 - use the default values specified for the IE "HCS neighbouring cell information" for that cell;
 - if IE "HCS neighbouring cell information" is not included in other occurrence of IE "Inter-RAT cell info list":
 - for that cell use the same parameter values as used for the preceding IE "Inter-RAT cell info list";
- if the value of the IE "Cell selection and reselection quality measure" is different from the value of the IE "Cell selection and reselection quality measure" obtained from System Information Block type 3 or System Information Block type 4:

- use the value of the IE from this System Information Block and ignore the value obtained from System Information Block type 3 or System Information Block type 4.

8.1.1.6.12 System Information Block type 12

If in connected mode, the UE should store all relevant IEs included in this system information block. The UE shall:

- if IE "FACH measurement occasion info" is included:
 - act as specified in subclause 8.6.7.
- else:
 - perform neither inter-frequency/inter-RAT measurements nor inter-frequency/inter-RAT cell re-selection evaluation, independent of UE measurement capabilities;
- for each measurement type:
 - start (or continue) a measurement using the set of IEs specified for that measurement type;
- act upon the received ~~IE "Intra-frequency/Inter-frequency/Inter-RAT cell info list"~~ IE "Intra-frequency cell info list" / "Inter-frequency cell info list" / "Inter-RAT cell info list" as described in subclause 8.6.7.3;
- if any of the IEs "Intra-frequency measurement quantity", "Intra-frequency reporting quantity for RACH reporting", "Maximum number of reported cells on RACH" or "Reporting information for state CELL_DCH" are not included in the system information block:
 - read the corresponding IE(s) in system information block type 11 and use that information for the intra-frequency measurement;
- if included in this system information block or in System Information Block type 11
 - store the IE "Intra-frequency reporting quantity" and the IE "Intra-frequency measurement reporting criteria" or "Periodical reporting criteria" in order to activate reporting when state CELL_DCH is entered;
- if the IE "Inter-frequency measurement quantity" is not included in the system information block:
 - read the corresponding IE in System Information Block type 11 and use that information for the inter-frequency measurement;
- if the IE "Inter-RAT measurement quantity" is not included in the system information block:
 - read the corresponding IE in System Information Block type 11 and use that information for the inter-RAT measurement;
- if in state CELL_FACH:
 - start traffic volume measurement reporting as specified in the IE "Traffic volume reporting quantity";
 - associate each measurement with the identity number given by the IE "Measurement identity";
- if IE "Use of HCS" is set to "used", indicating that HCS is used, do the following:
 - if IE "HCS neighbouring cell information" is not included in the first occurrence of IE "Intra-frequency cell info list":
 - use the default values specified for the IE "HCS neighbouring cell information" for that cell;
 - if IE "HCS neighbouring cell information" is not included in other occurrence of IE "Intra-frequency cell info list":
 - for that cell use the same parameter values as used for the preceding IE "Intra-frequency cell info list";
 - if IE "HCS neighbouring cell information" is not included in the first occurrence of IE "Inter-frequency cell info list":
 - use the default values specified for the IE "HCS neighbouring cell information" for that cell;

- if IE "HCS neighbouring cell information" is not included in other occurrence of IE "Inter-frequency cell info list":
 - for that cell use the same parameter values as used for the preceding IE "Inter-frequency cell info list";
- if IE "HCS neighbouring cell information" is not included in the first occurrence of IE "Inter-RAT cell info list":
 - use the default values specified for the IE "HCS neighbouring cell information" for that cell;
- if IE "HCS neighbouring cell information" is not included in other occurrence of IE "Inter-RAT cell info list":
 - for that cell use the same parameter values as used for the preceding IE "Inter-RAT cell info list".
- if the value of the IE "Cell selection and reselection quality measure" is different from the value of the IE "Cell selection and reselection quality measure" obtained from System Information Block type 3 or System Information Block type 4:
 - use the value of the IE from this System Information Block and ignore the value obtained from System Information Block type 3 or System Information Block type 4.

If in idle mode, the UE shall not use the values of the IEs in this system information block.

----- omitted -----

8.1.1.6.15.4 System Information Block type 15.4

If the UE is in idle or connected mode, and supports the UE-based OTDOA UE positioning method the UE shall:

- act as specified in subclause 8.6.7.19.3.2;
- store IE "OTDOA Data ciphering info" in OTDOA Data ciphering info in variable UE_POSITIONING_OTDOA_DATA if it is included.

----- omitted -----

8.1.1.7.2 Synchronised modification of system information blocks

For modification of some system information elements, e.g. reconfiguration of the channels, it is important for the UE to know exactly when a change occurs. In such cases, the UTRAN should notify the SFN when the change will occur as well as the new value tag for the master information block in the IE "BCCH modification info" transmitted in the following way:

- To reach UEs in idle mode, CELL_PCH state and URA_PCH state, the IE "BCCH modification info" is contained in a PAGING TYPE 1 message transmitted on the PCCH in all paging occasions in the cell;
- To reach UEs in CELL_FACH state, the IE "BCCH modification info" is contained in a SYSTEM INFORMATION CHANGE INDICATION message transmitted on the BCCH mapped on at least one FACH on every Secondary CCPCH in the cell.

Upon reception of a PAGING TYPE 1 message or a SYSTEM INFORMATION CHANGE INDICATION message containing the IE "BCCH modification info" containing the IE "MIB value tag" and containing the "IE BCCH modification time", the UE shall:

- perform the actions as specified in subclause 8.1.1.7.3 at the time, indicated in the ~~IE "BCCH Modification Information"~~ IE "BCCH modification info".

----- omitted -----

8.1.2.2 Initiation

UTRAN initiates the paging procedure by transmitting a PAGING TYPE 1 message on an appropriate paging occasion on the PCCH.

UTRAN may repeat transmission of a PAGING TYPE 1 message to a UE in several paging occasions to increase the probability of proper reception of a page.

UTRAN may page several UEs in the same paging occasion by including one IE "Paging record" for each UE in the PAGING TYPE 1 message.

For CN originated paging, UTRAN should set the IE "Paging cause" to the cause for paging received from upper layers. If no cause for paging is received from upper layers, UTRAN should set the value "Terminating – cause unknown".

UTRAN may also indicate that system information has been updated, by including the value tag of the master information block in the IE "BCCH modification information" in the PAGING TYPE 1 message. In this case, UTRAN may omit the IEs "Paging record".

----- omitted -----

8.1.12.3 Reception of SECURITY MODE COMMAND message by the UE

Upon reception of the SECURITY MODE COMMAND message, the UE shall perform the actions for the received information elements according to subclause 8.6.

If the IE "Ciphering mode info" and the IE "Integrity protection mode info" are both not included in the SECURITY MODE COMMAND, the UE shall:

- set the variable INVALID_CONFIGURATION to TRUE.

If the IE "Security capability" is the same as indicated by variable UE_CAPABILITY_TRANSFERRED, and the IE "GSM security capability" (if included in the SECURITY MODE COMMAND) is the same as indicated by the variable UE_CAPABILITY_TRANSFERRED, the UE shall:

- set the variable LATEST_CONFIGURED_CN_DOMAIN equal to the IE "CN domain identity";
- if prior to the reception of SECURITY MODE COMMAND, the value of the IE "Status" in the variable "CIPHERING_STATUS" of the CN domain stored in the variable LATEST_CONFIGURED_CN_DOMAIN is "Not started" and the value of the IE "Historical status" in the variable "INTEGRITY_PROTECTION_INFO" is "Never been active":
 - use the value "START" in the most recently sent IE "START list" that belongs to the CN domain as indicated in the IE "CN domain identity" to initialise all hyper frame numbers for all the signalling radio bearers; while
 - setting the 20 most significant bits of the hyper frame numbers for all signalling radio bearers to the START for that CN domain;
 - setting the remaining bits of the hyper frame numbers equal to zero;
- suspend all radio bearers and signalling radio bearers (except the signalling radio bearer used to transmit the SECURITY MODE COMPLETE message on the uplink DCCH in RLC-AM) using RLC-AM or RLC-UM that belong to the CN domain indicated in the IE "CN domain identity"; and
- set the "RLC send sequence number" in IE "Radio bearer uplink ciphering activation time info", at which time the new ciphering configuration shall be applied;
- set the IE "RRC transaction identifier" in the SECURITY MODE COMPLETE message to the value of "RRC transaction identifier" in the entry for the SECURITY MODE COMMAND message in the table "Accepted transactions" in the variable TRANSACTIONS; and
- clear that entry;

- if the SECURITY MODE COMMAND message contained the IE "Ciphering mode info":
 - include and set the IE "Radio bearer uplink ciphering activation time info" to the value of the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO, for the respective radio bearer and signalling radio bearer;
- if the SECURITY MODE COMMAND message contained the IE "Integrity protection mode info" with the IE "Integrity protection mode command" set to "Modify":
 - include and set the IE "Uplink integrity protection activation info" to the value of the variable INTEGRITY_PROTECTION_ACTIVATION_INFO;
- for radio bearers using RLC-TM:
 - apply the old ciphering configuration for the receiving and transmission of RLC TrD PDUs with CFN less than the number indicated in the IE "Ciphering activation time for DPCH", as sent by the UTRAN;
 - apply the new ciphering configuration for the receiving and transmission of RLC TrD PDUs with CFN greater than or equal to the number indicated in IE "Ciphering activation time for DPCH", as sent by the UTRAN;
- when the radio bearers and signalling radio bearers using RLC-AM or RLC-UM have been suspended:
 - send a SECURITY MODE COMPLETE message on the uplink DCCH in AM RLC, using the old ciphering configurations;
 - if the IE "Integrity protection mode info" was present in the SECURITY MODE COMMAND message:
 - start applying the new integrity protection configuration in the uplink for signalling radio bearer RB2 from and including the transmitted SECURITY MODE COMPLETE message;
- when the successful delivery of the SECURITY MODE COMPLETE message has been confirmed by RLC:
 - resume data transmission on any suspended radio bearer and signalling radio bearer mapped on RLC-AM or RLC-UM;
 - if the SECURITY MODE COMMAND message contained the IE "Ciphering mode info":
 - set the IE "Reconfiguration" in the variable CIPHERING_STATUS to FALSE; and
 - clear the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO;
 - if the SECURITY MODE COMMAND message contained the IE "Integrity protection mode info":
 - set the IE "Reconfiguration" in the variable INTEGRITY_PROTECTION_INFO to FALSE; and
 - clear the variable INTEGRITY_PROTECTION_ACTIVATION_INFO;
 - the procedure ends. If a RLC reset or re-establishment occurs after the SECURITY MODE COMPLETE message has been confirmed by RLC, but before the activation time for the new ciphering configuration has been reached, then the activation time shall be ignored and the new ciphering configuration shall be applied immediately after the RLC reset or RLC re-establishment;
 - notify upper layers upon change of the security configuration;
 - if a new security key set has been received for the CN domain as indicated in the variable LATEST_CONFIGURED_CN_DOMAIN:
 - set the START value for this CN domain to 0.

For radio bearers and signalling radio bearers used by the CN indicated in the IE "CN domain identity", the UE shall:

- if a new integrity protection key has been received:
 - in the downlink:
 - use the new key;

- set the IE "Downlink RRC HFN" for all signalling radio bearers in the variable INTEGRITY_PROTECTION_INFO of the downlink COUNT-I to zero when the RRC sequence number in a received RRC message on the particular signalling radio bearer reaches the value for that signalling radio bearer indicated in IE "Downlink integrity protection activation info" included in the IE "Integrity protection mode info";

in the uplink:

- use the new key;
- set the IE "Uplink RRC HFN" for all signalling radio bearers in the variable INTEGRITY_PROTECTION_INFO of the uplink COUNT-I to zero when the RRC sequence number in a transmitted RRC message on the particular signalling radio bearer reaches the value for that signalling radio bearer indicated in IE "Uplink integrity protection activation info";
- if a new ciphering key is available:
 - for radio bearers using RLC-TM:
 - use the new key in uplink and downlink;
 - set the HFN component of the COUNT-C to zero at the CFN as indicated in the IE "Ciphering activation time for DPCH" in the IE "Ciphering mode info";
 - for radio bearers using RLC-AM and RLC-UM:
 - in the downlink, at and after the RLC sequence number indicated in IE "Radio bearer downlink ciphering activation time info" in the IE "Ciphering mode info":
 - use the new key;
 - set the HFN component of the downlink COUNT-C to zero;
 - in the uplink, at and after the RLC sequence number indicated in IE "Radio bearer uplink ciphering activation time info":
 - use the new key;
 - set the HFN component of the uplink COUNT-C to zero.

If the IE "Security capability" is not the same as indicated by the variable UE_CAPABILITY_TRANSFERRED, or the IE "GSM security capability" (if included in the SECURITY MODE COMMAND) is not the same as indicated by the variable UE_CAPABILITY_TRANSFERRED, or if the IE "GSM security capability" is not included in the SECURITY MODE COMMAND and is included in the variable UE_CAPABILITY_TRANSFERRED, the UE shall:

- release all its radio resources;
- indicate the release of the established signalling connections (as stored in the variable ESTABLISHED_SIGNALLING_CONNECTIONS) and established radio access bearers (as stored in the variable ESTABLISHED_RABS) to upper layers;
- clear the variable ESTABLISHED_SIGNALLING_CONNECTIONS;
- clear the variable ESTABLISHED_RABS;
- enter idle mode;
- perform actions when entering idle mode as specified in subclause 8.5.2;
- and the procedure ends.

----- omitted -----

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 be able to receive any of the following messages:

- RADIO BEARER SETUP message; or
- RADIO BEARER RECONFIGURATION message; or
- RADIO BEARER RELEASE message; or
- TRANSPORT CHANNEL RECONFIGURATION message; or
- PHYSICAL CHANNEL RECONFIGURATION message

and perform a hard handover, even if no prior UE measurements have been performed on the target cell and/or frequency.

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:

- set the variable ORDERED_RECONFIGURATION to TRUE;
- perform the physical layer synchronisation procedure as specified in [29];
- 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 first release the physical channel configuration used at reception of the reconfiguration message. The UE shall then:

- 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:
 - act upon the IE "PDSCH code mapping" as specified in subclause 8.6 and;
 - infer that the PDSCH will be transmitted from the cell from which the downlink DPCH is transmitted;
- 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:

- 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:

- remove any C-RNTI from MAC;
- clear the variable C_RNTI.

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

- if the IE "~~UL~~Uplink DPCH Info" is absent, not change its current UL Physical channel configuration;
- if the IE "~~DL DPCH Info for each RL~~" IE "Downlink information for each radio link" is absent, not change its current DL Physical channel configuration.

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

- if the IE "Frequency info" is included in the received reconfiguration message:
 - select a suitable UTRA cell according to [4] on that frequency;
- if the IE "Frequency info" is not included in the received reconfiguration message:
 - select a suitable UTRA cell according to [4];
- 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):
 - initiate a cell update procedure according to subclause 8.3.1 using the cause "Cell reselection";
 - when the cell update procedure completed successfully:
 - 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";
 - proceed as below;
- 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 system information block type 1;
- select PRACH according to subclause 8.5.17;
- select Secondary CCPCH according to subclause 8.5.19;
- use the transport format set given in system information;
- if the IE "UTRAN DRX cycle length coefficient" is included in the same message:
 - ignore that IE and stop using DRX;
- if the contents of the variable C_RNTI is empty:
 - perform a cell update procedure according to subclause 8.3.1 using the cause "Cell reselection";
 - when the cell update procedure completed successfully:
 - 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";
 - proceed as below;

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:

- if the received reconfiguration message included the IE "Downlink counter synchronisation info":
 - re-establish RB2;
 - increment by one the downlink and uplink HFN values for RB2;

- calculate the START value according to subclause 8.5.9;
- include the calculated START values for each CN domain in the IE "START list" in the IE "Uplink counter synchronisation info";
- if the received reconfiguration message did not include the IE "Downlink counter synchronisation info":
 - if the variable START_VALUE_TO_TRANSMIT is set:
 - include and set the IE "START" to the value of that variable;
 - if the variable START_VALUE_TO_TRANSMIT is not set and the IE "New U-RNTI" is included:
 - calculate the START value according to subclause 8.5.9;
 - include the calculated START values for each CN domain in the IE "START list" in the IE "Uplink counter synchronisation info";
- if the received reconfiguration message contained the IE "Ciphering mode info":
 - include and set the IE "Radio bearer uplink ciphering activation time info" to the value of the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO;
- if the received reconfiguration message contained the IE "Integrity protection mode info" with the IE "Integrity protection mode command" set to "Modify":
 - include and set the IE "Uplink integrity protection activation info" to the value of the variable INTEGRITY_PROTECTION_ACTIVATION_INFO;
- if the received reconfiguration message did not contain the IE "Ciphering activation time for DPCH" in IE "Ciphering mode info":
 - if prior to this procedure there exist no transparent mode RLC radio bearers:
 - if, at the conclusion of this procedure, the UE will be in CELL_DCH state; and
 - if, at the conclusion of this procedure, at least one transparent mode RLC radio bearer exists:
 - include the IE "COUNT-C activation time" and specify a CFN value other than the default, "Now", for this IE;
 - if prior to this procedure there exists at least one transparent mode RLC radio bearer:
 - if, at the conclusion of this procedure, no transparent mode RLC radio bearers exist:
 - include the IE "COUNT-C activation time" in the response message and specify a CFN value other than the default, "Now", for this IE;
- 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
- clear that entry;
- if the variable PDCP_SN_INFO is not empty:
 - include the IE "RB with PDCP information list" and set it to the value of the variable PDCP_SN_INFO;
- 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):
 - set the IE "Uplink Timing Advance" according to subclause 8.6.6.26;
- if the IE "Integrity protection mode info" was present in the received reconfiguration message:
 - 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 CELL_PCH or URA_PCH state, the UE shall, after the state transition and transmission of the response message:

- if the IE "Frequency info" is included in the received reconfiguration message:
 - select a suitable UTRA cell according to [4] on that frequency;
- if the IE "Frequency info" is not included in the received reconfiguration message:
 - select a suitable UTRA cell according to [4];
- prohibit periodical status transmission in RLC;
- remove any C-RNTI from MAC;
- clear the variable C_RNTI;
- 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 system information block type 1;
- select Secondary CCPCH according to subclause 8.5.19;
- if the IE "UTRAN DRX cycle length coefficient" is included in the same message:
 - 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;
- if the UE enters CELL_PCH state from CELL_DCH state, and 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):
 - initiate a cell update procedure according to subclause 8.3.1 using the cause "cell reselection";
 - when the cell update procedure completed successfully:
 - the procedure ends;
- if the UE enters CELL_PCH state from CELL_FACH state, and 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:
 - initiate a cell update procedure according to subclause 8.3.1 using the cause "cell reselection";
 - when the cell update procedure is successfully completed:
 - the procedure ends;
- if the UE enters URA_PCH state, and after cell selection the criteria for URA update caused by "URA reselection" according to subclause 8.3.1 is fulfilled:
 - initiate a URA update procedure according to subclause 8.3.1 using the cause "URA reselection";
 - when the URA update procedure is successfully completed:
 - the procedure ends.

-----omitted-----

8.2.2.7 Physical channel failure

A physical channel failure occurs in case the criteria defined in subclause 8.5.4 are not fulfilled.

If the received message caused the UE to be in CELL_DCH state and the UE failed to establish the dedicated physical channel(s) indicated in the received message the UE shall:

- revert to the configuration prior to the reception of the message (old configuration);
- if the old configuration includes dedicated physical channels (CELL_DCH state) and the UE is unable to revert to the old configuration:
 - select a suitable UTRA cell according to [4];
 - initiate a cell update procedure according to subclause 8.3.1, using the cause "radio link failure";
 - after the cell update procedure has completed successfully:
 - proceed as below;
- if the old configuration does not include dedicated physical channels (CELL_FACH state):
 - select a suitable UTRA cell according to [4];
 - if the UE selects another cell than the cell the UE camped on upon reception of the reconfiguration message:
 - initiate a cell update procedure according to subclause 8.3.1, using the cause "Cell reselection";
 - after the cell update procedure has completed successfully:
 - proceed as below;
- transmit a failure response message as specified in subclause 8.2.2.9, setting the information elements as specified below:
 - include the IE "RRC transaction identifier"; and
 - set it to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and
 - clear that entry;
 - set the IE "failure cause" to "physical channel failure";
- set the variable ORDERED_RECONFIGURATION to FALSE;
- continue with any ongoing processes and procedures as if the reconfiguration message was not received;

The procedure ends.

----- omitted -----

8.2.10.3 Reception of UPLINK PHYSICAL CHANNEL CONTROL message by the UE

Upon reception of the UPLINK PHYSICAL CHANNEL CONTROL message, the UE shall:

- act upon all received information elements as specified in subclause 8.6.

If the IEs "Uplink DPCH Power Control Info", "[PRACH Constant Value](#)", "[PUSCH Constant Value](#)", "Alpha" or IE group "list of UL Timeslot Interference" are transmitted, this information shall be taken into account by the UE for uplink open loop power control as specified in subclause 8.5.7.

If the IE Special Burst Scheduling" is transmitted the UE shall:

- use the new value for the "[UL-Special Burst Generation Period](#)".

The UE shall:

- clear the entry for the UPLINK PHYSICAL CHANNEL CONTROL message in the table "Accepted transactions" in the variable TRANSACTIONS;
- and the procedure ends.

----- omitted -----

8.3.1.6 Reception of the CELL UPDATE CONFIRM/URA UPDATE CONFIRM message by the UE

When the UE receives a CELL UPDATE CONFIRM/URA UPDATE CONFIRM message; and

- if the message is received on the CCCH, and IE "U-RNTI" is present and has the same value as the variable U_RNTI, or;
- if the message is received on DCCH;

the UE shall:

- stop timer T302;
- in case of a cell update procedure and the CELL UPDATE CONFIRM message:
 - includes "RB information elements"; and/or
 - includes "Transport channel information elements"; and/or
 - includes "Physical channel information elements"; and
 - if the variable ORDERED_RECONFIGURATION is set to FALSE:
 - set the variable ORDERED_RECONFIGURATION to TRUE;
- act upon all received information elements as specified in subclause 8.6, unless specified otherwise in the following:
 - use the transport channel(s) applicable for the physical channel types that is used; and
 - if the IE "TFS" is neither included nor previously stored in the UE for that transport channel(s):
 - use the TFS given in system information.
 - if none of the TFS stored is compatible with the physical channel:
 - delete the stored TFS;
 - use the TFS given in system information.
 - perform the physical layer synchronisation procedure as specified in [29];
 - if the CELL UPDATE CONFIRM message includes the IE "RLC re-establish indicator (RB2, RB3 and RB4)":
 - re-establish the RLC entities for signalling radio bearer RB2, signalling radio bearer RB3 and signalling radio bearer RB4 (if established);
 - if the value of the IE "Status" in the variable CIPHERING_STATUS of the CN domain stored in the variable LATEST_CONFIGURED_CN_DOMAIN is set to "Started":
 - set the HFN values for AM RLC entities with RB identity 2, RB identity 3 and RB identity 4 (if established) equal to the START value included in the latest transmitted CELL UPDATE message for the CN domain stored in the variable LATEST_CONFIGURED_CN_DOMAIN;
 - if the CELL UPDATE CONFIRM message includes the IE "RLC re-establish indicator (~~RB2, RB3 and RB4~~) (RB5 and upwards)":
 - for radio bearers with RB identity ~~2 and upwards~~ **5 and upwards** ~~larger than 4~~:
 - re-establish the AM RLC entities;

- if the value of the IE "Status" in the variable CIPHERING_STATUS of the CN domain as indicated in the IE "CN domain identity" in the IE "RAB info" in the variable ESTABLISHED_RABS is set to "Started":
 - set the HFN values for AM RLC entities equal to the START value included in this CELL UPDATE message for the CN domain as indicated in the IE "CN domain identity" in the IE "RAB info" in the variable ESTABLISHED_RABS;
- enter a state according to subclause 8.6.3.3 applied on the CELL UPDATE CONFIRM / URA UPDATE CONFIRM message.

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

- not prohibit periodical status transmission in RLC.

If the UE after state transition remains in CELL_FACH state, it shall

- start the timer T305 using its initial value if timer T305 is not running and periodical cell update has been configured by T305 in the IE "UE Timers and constants in connected mode" set to any other value than "infinity";
- select PRACH according to subclause 8.5.17;
- select Secondary CCPCH according to subclause 8.5.19;
- not prohibit periodical status transmission in RLC;
- if the IE "UTRAN DRX cycle length coefficient" is included in the same message:
 - ignore that IE and stop using DRX;

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

- prohibit periodical status transmission in RLC;
- clear the variable C_RNTI;
- stop using that C_RNTI just cleared from the variable C_RNTI in MAC;
- start the timer T305 using its initial value if timer T305 is not running and periodical update has been configured by T305 in the IE "UE Timers and constants in connected mode" set to any other value than "infinity";
- select Secondary CCPCH according to subclause 8.5.19;
- if the IE "UTRAN DRX cycle length coefficient" is included in the same message:
 - 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 in CELL_PCH state.

If the UE after the state transition remains in CELL_FACH state and;

- the contents of the variable C_RNTI are empty;

it shall check the value of V302 and

- If V302 is equal to or smaller than N302:
 - if, caused by the received CELL UPDATE CONFIRM or URA UPDATE CONFIRM message,
 - the IE "Reconfiguration" in the variable CIPHERING_STATUS is set to TRUE; and/or
 - the IE "Reconfiguration" in the variable INTEGRITY_PROTECTION_INFO is set to TRUE:
 - abort the ongoing integrity and/or ciphering reconfiguration;
 - if the received CELL UPDATE CONFIRM or URA UPDATE CONFIRM message contained the IE "Ciphering mode info":

- set the IE "Reconfiguration" in the variable CIPHERING_STATUS to FALSE; and
- clear the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO;
- if the received CELL UPDATE CONFIRM or URA UPDATE CONFIRM message contained the IE "Integrity protection mode info":
 - set the IE "Reconfiguration" in the variable INTEGRITY_PROTECTION_INFO to FALSE; and
 - clear the variable INTEGRITY_PROTECTION_ACTIVATION_INFO;
- in case of a URA update procedure:
 - stop the URA update procedure; and
 - continue with a cell update procedure;
- set the contents of the CELL UPDATE message according to subclause 8.3.1.3, except for the IE "Cell update cause" which shall be set to "cell reselection";
- submit the CELL UPDATE message for transmission on the uplink CCCH;
- increment counter V302;
- restart timer T302 when the MAC layer indicates success or failure to transmit the message;
- If V302 is greater than N302:
 - clear the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO;
 - clear the variable INTEGRITY_PROTECTION_ACTIVATION_INFO;
 - in case of a cell update procedure:
 - clear the entry for the CELL UPDATE CONFIRM message in the table "Rejected transactions" in the variable TRANSACTIONS;
 - in case of a URA update procedure:
 - clear the entry for the URA UPDATE CONFIRM message in the table "Rejected transactions" in the variable TRANSACTIONS;
 - release all its radio resources;
 - indicate release (abort) of the established signalling connections (as stored in the variable ESTABLISHED_SIGNALLING_CONNECTIONS) and established radio access bearers (as stored in the variable ESTABLISHED_RABS) to upper layers;
 - clear the variable ESTABLISHED_SIGNALLING_CONNECTIONS;
 - clear the variable ESTABLISHED_RABS;
 - enter idle mode;
 - other actions the UE shall perform when entering idle mode from connected mode are specified in subclause 8.5.2;
 - and the procedure ends.

If the UE after the state transition remains in CELL_FACH state and

- a C-RNTI is stored in the variable C_RNTI;

or

the UE after the state transition moves to another state than the CELL_FACH state;

the UE shall:

- if the CELL UPDATE CONFIRM / URA UPDATE CONFIRM message contained the IE "Ciphering mode info":
 - include and set the IE "Radio bearer uplink ciphering activation time info" in any response message transmitted below to the value of the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO.
- if the CELL UPDATE CONFIRM / URA UPDATE CONFIRM message contained the IE "Integrity protection mode info" with the IE "Integrity protection mode command" set to "Modify":
 - include and set the IE "[Uplink integrity protection activation info](#)" in any response message transmitted below to the value of the variable INTEGRITY_PROTECTION_ACTIVATION_INFO;
- in case of a cell update procedure:
 - set the IE "RRC transaction identifier" in any response message transmitted below to the value of "RRC transaction identifier" in the entry for the CELL UPDATE CONFIRM message in the table "Accepted transactions" in the variable TRANSACTIONS; and
 - clear that entry.
- in case of a URA update procedure:
 - set the IE "RRC transaction identifier" in any response message transmitted below to the value of "RRC transaction identifier" in the entry for the URA UPDATE CONFIRM message in the table "Accepted transactions" in the variable TRANSACTIONS; and
 - clear that entry;
- if the variable PDCP_SN_INFO is non-empty:
 - include the IE "RB with PDCP information list" in any response message transmitted below and set it to the value of the variable PDCP_SN_INFO;
- if the received CELL UPDATE CONFIRM or URA UPDATE CONFIRM message included the IE "Downlink counter synchronisation info":
 - calculate the START value according to subclause 8.5.9;
 - include the calculated START values for each CN domain in the IE "START list" in the IE "Uplink counter synchronisation info" in any response message transmitted below;
- transmit a response message as specified in subclause 8.3.1.7;
- if the IE "Integrity protection mode info" was present in the CELL UPDATE CONFIRM or URA UPDATE CONFIRM message:
 - start applying the new integrity protection configuration in the uplink for signalling radio bearer RB2 from and including the transmitted response message;
- if the variable ORDERED_RECONFIGURATION is set to TRUE caused by the received CELL UPDATE CONFIRM message in case of a cell update procedure:
 - set the variable ORDERED_RECONFIGURATION to FALSE;
- clear the variable PDCP_SN_INFO;
- if the CELL UPDATE CONFIRM / URA UPDATE CONFIRM message contained the IE "Ciphering mode info":
 - set the IE "Reconfiguration" in the variable CIPHERING_STATUS to FALSE; and
 - clear the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO;
- if the CELL UPDATE CONFIRM / URA UPDATE CONFIRM message contained the IE "Integrity protection mode info":
 - set the IE "Reconfiguration" in the variable INTEGRITY_PROTECTION_INFO to FALSE; and

- clear the variable INTEGRITY_PROTECTION_ACTIVATION_INFO;
- in case of a cell update procedure:
 - clear the entry for the CELL UPDATE CONFIRM message in the table "Rejected transactions" in the variable TRANSACTIONS;
- in case of a URA update procedure:
 - clear the entry for the URA UPDATE CONFIRM message in the table "Rejected transactions" in the variable TRANSACTIONS;
- set the variable CELL_UPDATE_STARTED to FALSE;

The procedure ends.

----- omitted -----

8.3.3.3 Reception of UTRAN MOBILITY INFORMATION message by the UE

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

- act on received information elements as specified in subclause 8.6;
- if the IE "UE Timers and constants in connected mode" is present:
 - 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
 - for each updated timer value:
 - start using the new value next time the timer is started;
 - for each updated constant value:
 - start using the new value directly;
- 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
- clear that entry;
- if the UTRAN MOBILITY INFORMATION message contained the IE "Ciphering mode info":
 - include and set the IE "Radio bearer uplink ciphering activation time info" to the value of the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO;
- if the UTRAN MOBILITY INFORMATION message contained the IE "Integrity protection mode info" with the IE "Integrity protection mode command" set to "Modify":
 - include and set the IE "Uplink integrity protection activation info" to the value of the variable INTEGRITY_PROTECTION_ACTIVATION_INFO;
- if the variable PDCP_SN_INFO is non-empty:
 - 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;
- if the received UTRAN MOBILITY INFORMATION message included the IE "Downlink counter synchronisation info":
 - calculate the START value according to subclause 8.5.9;
 - 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;

- transmit a UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC;
- if the IE "Integrity protection mode info" was present in the UTRAN MOBILITY INFORMATION message:
 - 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;
- if the variable PDCP_SN_INFO is empty; and
 - if the UTRAN MOBILITY INFORMATION message contained the IE "Ciphering mode info":
 - when RLC has confirmed the successful transmission of the UTRAN MOBILITY INFORMATION CONFIRM message, perform the actions below;
 - if the UTRAN MOBILITY INFORMATION message did not contain the IE "Ciphering mode info":
 - when RLC has been requested to transmit the UTRAN MOBILITY INFORMATION CONFIRM message, perform the actions below;
- if the variable PDCP_SN_INFO is non-empty:
 - when RLC has confirmed the successful transmission of the UTRAN MOBILITY INFORMATION CONFIRM message:
 - for each radio bearer in the variable PDCP_SN_INFO:
 - if the IE "RB started" in the variable ESTABLISHED_RABS is set to "started":
 - configure the RLC entity for that radio bearer to "continue";
 - clear the variable PDCP_SN_INFO;
- if the UTRAN MOBILITY INFORMATION message contained the IE "Ciphering mode info":
 - set the IE "Reconfiguration" in the variable CIPHERING_STATUS to FALSE; and
 - clear the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO;
- if the UTRAN MOBILITY INFORMATION message contained the IE "Integrity protection mode info":
 - set the IE "Reconfiguration" in the variable INTEGRITY_PROTECTION_INFO to FALSE; and
 - clear the variable INTEGRITY_PROTECTION_ACTIVATION_INFO;

The procedure ends.

----- omitted -----

8.3.4.3 Reception of an ACTIVE SET UPDATE message by the UE

Upon reception of an ACTIVE SET UPDATE message the UE shall act upon all received information elements as specified in 8.6, unless specified otherwise in the following. The UE shall:

- first add the RLs indicated in the IE "Radio Link Addition Information";
- remove the RLs indicated in the IE "Radio Link Removal Information". If the UE active set is full or becomes full, an RL, which is included in the IE "Radio Link Removal Information" for removal, shall be removed before adding RL, which is included in the IE "Radio Link Addition Information" for addition;
- perform the physical layer synchronisation procedure as specified in [29];
- if the ACTIVE SET UPDATE message contained the IE "Ciphering mode info":
 - include and set the IE "Radio bearer uplink ciphering activation time info" to the value of the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO;

- if the ACTIVE SET UPDATE message contained the IE "Integrity protection mode info" with the IE "Integrity protection mode command" set to "Modify":
 - include and set the IE "Uplink integrity protection activation info" to the value of the variable INTEGRITY_PROTECTION_ACTIVATION_INFO;
- if the variable PDCP_SN_INFO is non-empty:
 - include the IE "RB with PDCP information list" in the ACTIVE SET UPDATE COMPLETE message; and
 - set it to the value of the variable PDCP_SN_INFO;
- if the IE "TFCI combining indicator" associated with a radio link to be added is set to TRUE:
 - if a DSCH transport channel is assigned and there is a 'hard' split in the TFCI field:
 - configure Layer 1 to soft-combine TFCI (field 2) of this new link with those links already in the TFCI (field 2) combining set;
- if the received ACTIVE SET UPDATE message included the IE "Downlink counter synchronisation info":
 - calculate the START value according to subclause 8.5.9;
 - include the calculated START values for each CN domain in the IE "START list" in the IE "Uplink counter synchronisation info" in the ACTIVE SET UPDATE COMPLETE message;
- set the IE "RRC transaction identifier" in the ACTIVE SET UPDATE COMPLETE message to the value of "RRC transaction identifier" in the entry for the ACTIVE SET UPDATE message in the table "Accepted transactions" in the variable TRANSACTIONS; and
- clear that entry;
- transmit an ACTIVE SET UPDATE COMPLETE message on the uplink DCCH using AM RLC without waiting for the Physical Layer synchronization;
- if the IE "Integrity protection mode info" was present in the ACTIVE SET UPDATE message:
 - start applying the new integrity protection configuration in the uplink for signalling radio bearer RB2 from and including the transmitted ACTIVE SET UPDATE COMPLETE message;
- if the variable PDCP_SN_INFO is empty:
 - if the ACTIVE SET UPDATE message contained the IE "Ciphering mode info":
 - when RLC has confirmed the successful transmission of the ACTIVE SET UPDATE COMPLETE message:
 - perform the actions below;
 - if the ACTIVE SET UPDATE message did not contain the IE "Ciphering mode info":
 - when RLC has been requested to transmit the ACTIVE SET UPDATE COMPLETE message:
 - perform the actions below;
- if the variable PDCP_SN_INFO is non-empty:
 - when RLC has confirmed the successful transmission of the ACTIVE SET UPDATE COMPLETE message:
 - for each radio bearer in the variable PDCP_SN_INFO:
 - if the IE "RB started" in the variable ESTABLISHED_RABS is set to "started":
 - configure the RLC entity for that radio bearer to "continue";
 - clear the variable PDCP_SN_INFO;
- if the ACTIVE SET UPDATE message contained the IE "Ciphering mode info":

- set the IE "Reconfiguration" in the variable CIPHERING_STATUS to FALSE; and
- clear the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO;
- if the ACTIVE SET UPDATE message contained the IE "Integrity protection mode info":
 - set the IE "Reconfiguration" in the variable INTEGRITY_PROTECTION_INFO to FALSE; and
 - clear the variable INTEGRITY_PROTECTION_ACTIVATION_INFO;
- the procedure ends on the UE side.

----- omitted -----

8.3.6.2 Initiation

The procedure is initiated when a radio access technology other than UTRAN, e.g. GSM, using radio access technology-specific procedures, orders the UE to make a handover to UTRAN.

A HANOVER TO UTRAN COMMAND message is sent to the UE via the radio access technology from which inter-RAT handover is performed.

In case UTRAN decides to use a predefined or default radio configuration that is stored in the UE, it should include the following information in the HANOVER TO UTRAN COMMAND message.

- the IE "New U-RNTI" to be assigned;
- the IE "Predefined configuration identity", to indicate which pre-defined configuration of RB, transport channel and physical channel parameters shall be used; or
- the IE "Default configuration mode" and IE "Default configuration identity", to indicate which default configuration of RB, transport channel and physical channel parameters shall be used;
- PhyCH information elements.

NOTE 1: When using a predefined or default configuration during handover to UTRAN, UTRAN can only assign values of IEs "New U-RNTI" and "scrambling code" that are within the special subranges defined exclusively for this procedure. UTRAN may re-assign other values after completion of the handover procedure.

NOTE 2: When using a predefined or default configuration during handover to UTRAN, fewer IEs are signalled; when using this signalling option some parameters e.g. concerning compressed mode, DSCH, SSdT can not be configured. In this case, the corresponding functionality can not be activated immediately.

In case UTRAN does not use a predefined radio configuration that is stored in the UE, it should include the following information in the HANOVER TO UTRAN COMMAND message.

- the IE "New U-RNTI" to be assigned;
- the complete set of RB, TrCH and PhyCH information elements to be used.

----- omitted -----

8.3.7.5 UE fails to complete requested handover

If the UE does not succeed in establishing the connection to the target radio access technology, it shall:

- revert back to the UTRA configuration;
- establish the UTRA physical channel(s) used at the time for reception of HANOVER FROM UTRAN COMMAND;
- if the UE does not succeed to establish the UTRA physical channel(s):
 - select a suitable UTRA cell according to [4];

- perform a cell update procedure according to subclause 8.3.1 with cause "Radio link failure";
- when the cell update procedure has completed successfully:
 - proceed as below;
- transmit the HANOVER FROM UTRAN FAILURE message setting the information elements as specified below:
 - include the IE "RRC transaction identifier"; and
 - set it to the value of "RRC transaction identifier" in the entry for the HANOVER FROM UTRAN COMMAND message in the table "Accepted transactions" in the variable TRANSACTIONS; and
 - clear that entry;
 - set the IE "Inter-RAT [change-handover](#) failure" to "physical channel failure";
- When the HANOVER FROM UTRAN FAILURE message has been submitted to lower layer for transmission:
 - the procedure ends.

----- omitted -----

8.3.7.8 Unsupported configuration in HANOVER FROM UTRAN COMMAND message

If the UTRAN instructs the UE to perform a non-supported handover scenario, e.g. multiple RAB or to use a non-supported configuration, the UE shall:

- transmit a HANOVER FROM UTRAN FAILURE message, setting the information elements as specified below:
 - include the IE "RRC transaction identifier"; and
 - set it to the value of "RRC transaction identifier" in the entry for the HANOVER FROM UTRAN COMMAND message in the table "Accepted transactions" in the variable TRANSACTIONS; and
 - clear that entry;
 - set the IE "Inter-RAT [change-handover](#) failure" to "configuration unacceptable";
- when the HANOVER FROM UTRAN FAILURE message has been submitted to lower layers for transmission:
 - resume normal operation as if the invalid HANOVER FROM UTRAN COMMAND message has not been received;
 - and the procedure ends.

8.3.7.8a Reception of HANOVER FROM UTRAN COMMAND message by UE in CELL_FACH

If the UE receives HANOVER FROM UTRAN COMMAND while in CELL_FACH, the UE shall:

- transmit a HANOVER FROM UTRAN FAILURE message, setting the information elements as specified below:
 - include the IE "RRC transaction identifier"; and
 - set it to the value of "RRC transaction identifier" in the entry for the HANOVER FROM UTRAN COMMAND message in the table "Accepted transactions" in the variable TRANSACTIONS; and
 - clear that entry;

- set the IE "Inter-RAT ~~handoverchange~~ failure" to "protocol error", include IE "Protocol error information"; and
- set the value of IE "Protocol error cause" to "Message not compatible with receiver state";
- when the HANDOVER FROM UTRAN FAILURE message has been submitted to lower layers for transmission:
 - resume normal operation as if the invalid HANDOVER FROM UTRAN COMMAND message has not been received;
 - and the procedure ends.

----- omitted -----

8.3.11.3 Reception of an CELL CHANGE ORDER FROM UTRAN message by the UE

The UE shall be able to receive a CELL CHANGE ORDER FROM UTRAN message and perform a cell change order to another RAT, even if no prior UE measurements have been performed on the target cell.

The UE shall:

- start timer T309; and
- establish the connection to the other radio access technology, as specified within IE "Target cell ~~info~~ description". This IE specifies the target cell identity, in accordance with the specifications for that other RAT. In case the target cell is a GSM/ GPRS cell, IE "Target cell ~~info~~ description" may also include IE "NC mode", which specifies the cell selection mode to be applied in the target cell; and
- if IE "NC mode" is not included in the CELL CHANGE ORDER FROM UTRAN:
 - retrieve it from the target cell as specified in [43];
 - act upon IE "NC mode" as specified in [43].
- if one or more IEs "RAB info" are included in the CELL CHANGE ORDER FROM UTRAN message:
 - connect the upper layer entities corresponding to indicated RABs to the radio resources offered by the target RAT;

NOTE: Requirements concerning the establishment of the radio connection towards the other radio access technology and the signalling procedure are outside the scope of this specification. In case of GSM/GPRS proceed according to the procedure Network control cell reselection procedure as specified in [44].

----- omitted -----

8.3.11.7 Invalid CELL CHANGE ORDER FROM UTRAN message

If the CELL CHANGE ORDER FROM UTRAN message contains a protocol error causing the variable PROTOCOL_ERROR_REJECT to be set to TRUE according to clause 9, the UE shall perform procedure specific error handling as follows. The UE shall:

- set the IE "RRC transaction identifier" in the CELL CHANGE ORDER FROM UTRAN FAILURE message to the value of "RRC transaction identifier" in the entry for the CELL CHANGE ORDER FROM UTRAN message in the table "Rejected transactions" in the variable TRANSACTIONS; and
- clear that entry;
- set the IE "~~Inter-RAT change failure~~ failure-cause" to the cause value "protocol error";
- include the IE "Protocol error information" with contents set to the value of the variable PROTOCOL_ERROR_INFORMATION;
- transmit a CELL CHANGE ORDER FROM UTRAN FAILURE message on the uplink DCCH using AM RLC;

- when the CELL CHANGE ORDER FROM UTRAN FAILURE message has been submitted to lower layers for transmission:
 - resume normal operation as if the invalid CELL CHANGE ORDER FROM UTRAN message has not been received;
 - and the procedure ends.

----- omitted -----

8.4.1.7.1 Intra-frequency measurement

Upon transition from CELL_FACH to CELL_DCH state, the UE shall:

- retrieve each set of measurement control information of measurement type "intra-frequency" stored in the variable MEASUREMENT_IDENTITY;
- if the IE "measurement validity" for a measurement has been assigned the value "CELL_DCH":
 - resume the measurement reporting;
- if no intra-frequency measurements applicable to CELL_DCH state are stored in the variable MEASUREMENT_IDENTITY:
 - continue monitoring the list of neighbouring cells assigned in the IE "intra-frequency cell info list" in System Information Block type 12 (or System Information Block type 11, according to subclause 8.1.1.6.11);
 - if the IE "intra-frequency measurement reporting criteria" was included in System Information Block type 12 (or System Information Block type 11, according to subclause 8.1.1.6.11):
 - send the MEASUREMENT REPORT message when reporting criteria in IE "Reporting information for state CELL_DCH" are fulfilled;

----- omitted -----

8.4.1.9.4 Traffic volume measurement

Upon transition from idle mode to CELL_FACH state, the UE shall:

- store the measurement control information from the IE "Traffic volume measurements system information" received in System Information Block type 12 (or System Information Block type 11, according to subclause 8.1.1.6.11) in the variable MEASUREMENT_IDENTITY;
- begin traffic volume measurement reporting according to the assigned information.

8.4.1.9a Measurements after transition from connected mode to idle mode

Upon transition from connected mode to idle mode the UE shall:

- stop measurement reporting for all measurements stored in the variable MEASUREMENT_IDENTITY;
- clear the variable MEASUREMENT_IDENTITY;
- apply the following rules for different measurement types.

----- omitted -----

8.4.2.2 Initiation

In CELL_DCH state, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH when the reporting criteria stored in variable MEASUREMENT_IDENTITY are met for any ongoing measurements that are being performed in the UE.

In CELL_FACH state, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH when the reporting criteria stored in variable MEASUREMENT_IDENTITY are met for any ongoing traffic volume measurement that is being performed in the UE.

In TDD, if the Radio Bearer associated with the MEASUREMENT_IDENTITY fulfilling the reporting criteria for an ongoing traffic volume measurement is mapped on transport channel of type USCH, the UE shall initiate the "PUSCH CAPACITY REQUEST" procedure instead of transmitting a MEASUREMENT REPORT (TDD Only).

In CELL_PCH or URA_PCH state, the UE shall first perform the cell update procedure according to subclause 8.3.1, using the cause "uplink data transmission", in order to transit to CELL_FACH state and then transmit a MEASUREMENT REPORT message on the uplink DCCH when the reporting criteria stored in variable MEASUREMENT_IDENTITY are fulfilled for any ongoing traffic volume measurement which is being performed in the UE.

The reporting criteria are fulfilled if either:

- the first measurement has been completed according to the requirements set in [19] or [20] for a newly initiated measurement with periodic reporting; or
- the time period indicated in the stored IE "Periodical reporting criteria" has elapsed since the last measurement report was submitted to lower layers for a given measurement; or
- an event in stored IE "Measurement reporting criteria" was triggered. Events and triggering of reports for different measurement types are described in detail in clause 14.

For the measurement, which triggered the MEASUREMENT REPORT message, the UE shall:

- set the IE "measurement identity" to the measurement identity, which is associated with that measurement in variable MEASUREMENT_IDENTITY;
- set the IE "measured results" to include measurements according to the IE "reporting quantity" of that measurement stored in variable MEASUREMENT_IDENTITY; and
- if all the reporting quantities are set to "false":
 - not set the IE "measured results";
- set the IE "Measured results" in the IE "Additional measured results" according to the IE "reporting quantity" for all measurements associated with the measurement identities included in the ~~IE "additional measurements"~~ "Additional measurements list" stored in variable MEASUREMENT_IDENTITY of the measurement that triggered the measurement report; and
- if more than one additional measured results are to be included:
 - sort them in ascending order according to their IE "measurement identity" in the MEASUREMENT REPORT message;
- if the MEASUREMENT REPORT message was triggered by an event (i.e. not a periodical report):
 - set the IE "Event results" according to the event that triggered the report.

The UE shall:

- transmit the MEASUREMENT REPORT message on the uplink DCCH using either AM or UM RLC according to the stored IE "measurement reporting mode" associated with the measurement identity that triggered the report.

When the MEASUREMENT REPORT message has been submitted to lower layers for transmission:

- the procedure ends.

----- omitted -----

8.5.7 Open loop power control

For FDD and prior to PRACH or PCPCH transmission the UE shall:

- read the IEs "Primary CPICH ~~DL-TX~~ power", "UL interference" and "Constant value" in System Information Block type 6 (or System Information Block type 5, if system information block type 6 is not being broadcast) and the IE "UL interference" in System Information Block type 7;
- measure the value for the CPICH_RSCP;
- calculate the power for the first preamble as:

$$\text{Preamble_Initial_Power} = \text{Primary CPICH } \del{DL-TX} \text{ power} - \text{CPICH_RSCP} + \text{UL interference} + \text{Constant Value}$$

Where,

Primary CPICH ~~DL-TX~~ power shall have the value of IE "Primary CPICH ~~DL-TX~~ power",

UL interference shall have the value of IE "UL interference"; and

Constant Value shall have the value of IE "Constant ~~y~~value".

- as long as the physical layer is configured for PRACH or PCPCH transmission:
 - continuously recalculate the Preamble_Initial_Power when any of the broadcast parameters used in the above formula changes; and
 - resubmit to the physical layer the new calculated Preamble_Initial_Power.

For TDD the UE shall:

- if in the IE "Uplink DPCH Power Control info" the "CHOICE UL OL PC info" has the value "Broadcast UL OL PC info":
 - acquire Reference Power, Constant Values from System Information Block type 6 (or System Information Block type 5, according to subclause 8.1.1.6.5), and I_{BTS} for all active UL timeslots from System Information Block type 14 on the BCH;
- otherwise:
 - acquire Reference Power, Constant Values and I_{BTS} for all active UL timeslots from the IE "Uplink DPCH Power Control info".
- for PUSCH and PRACH power control:
 - acquire Reference Power, Constant Values and I_{BTS} for all active UL timeslots from System Information Block type 6 (or System Information Block type 5, according to subclause 8.1.1.6.5) and System Information Block type 14 on the BCH,

calculate the UL transmit power according to the following formula for the PRACH continuously while the physical channel is active:

$$P_{\text{PRACH}} = L_{\text{PCCPCH}} + I_{\text{BTS}} + \text{RACH Constant value},$$

- 3dB shall be added to RACH Constant Value in the above equation for the case where RACH Spreading Factor = 8
- calculate the UL transmit power according to the following formula for the DPCH continuously while the physical channel is active:

$$P_{\text{DPCH}} = \alpha L_{\text{PCCPCH}} + (1-\alpha)L_0 + I_{\text{BTS}} + \text{SIR}_{\text{TARGET}} + \text{DPCH Constant value}$$

- calculate the UL transmit power according to the following formula for the PUSCH continuously while the physical channel is active:

$$P_{\text{USCH}} = \alpha L_{\text{PCCPCH}} + (1-\alpha)L_0 + I_{\text{BTS}} + \text{SIR}_{\text{TARGET}} + \text{USCH Constant value}$$

Where, for all the above equations for TDD the following apply:

- P_{PRACH} , P_{DPCH} , & P_{USCH} : Transmitter power level in dBm;

- Pathloss values:
 - L_{PCCPCH} : Measurement representing path loss in dB based on beacon channels (the reference transmit power is signalled as the value of the IE "Primary CCPCH Tx Power" on BCH in System Information Block type 6 (or System Information Block type 5, according to subclause 8.1.1.6.5), or individually signalled in the IE "Uplink DPCH Power Control info").
 - L_0 : Long term average of path loss in dB;
 - If the midamble is used in the evaluation of L_{PCCPCH} and L_0 , and the Tx diversity scheme used for the P-CCPCH involves the transmission of different midambles from the diversity antennas, the received power of the different midambles from the different antennas shall be combined prior to evaluation of the variables.
- I_{BTS} : Interference signal power level at cell's receiver in dBm. I_{BTS} shall have the value of the IE "UL Timeslot Interference" (IE "UL Timeslot Interference" is broadcast on BCH in System Information Block type 14 or individually signalled to each UE in the IE "Uplink DPCH Power Control info" for each active uplink timeslot).
- α : α is a weighting parameter, which represents the quality of path loss measurements. α may be a function of the time delay between the uplink time slot and the most recent down link PCCPCH time slot. α is calculated at the UE. α shall be smaller or equal to the value of the IE "Alpha". If the IE "Alpha" is not explicitly signalled to the UE α shall be set to 1.
- SIR_{TARGET} : Target SNR in dB. This value is individually signalled to UEs in IE "UL target SIR" in IE "~~UL~~Uplink DPCH Power Control Info" or in IE "PUSCH Power Control Info" respectively.
- RACH Constant value: RACH Constant value shall have the value of the IE "RACH Constant value".
- DPCH Constant value: DPCH Constant value shall have the value of the IE "DPCH Constant value".
- USCH Constant ~~y~~value: USCH Constant value shall have the value of the IE "USCH Constant value".
- Values received by dedicated signalling shall take precedence over broadcast values.

----- omitted -----

8.5.11 FACH measurement occasion calculation

When in CELL_FACH state and when the variable C_RNTI is non-empty the UE in FDD mode shall perform inter-frequency and ~~inter-system~~inter-RAT measurements during the frame(s) with the SFN value fulfilling the following equation:

$$SFN \text{ div } N = C_RNTI \text{ mod } M_REP + n * M_REP$$

where

- N is the TTI (in number of 10ms frames) of the FACH having the largest TTI on the SCCPCH monitored by UE
- C_RNTI is the C-RNTI value of the UE stored in the variable C_RNTI
- M_REP is the Measurement Occasion cycle length. According to the equation above, a FACH Measurement Occasion of N frames will be repeated every $N * M_REP$ frame, and $M_REP = 2^k$.

where,

- k is the FACH Measurement occasion cycle length coefficient.
The value of the FACH Measurement occasion cycle length coefficient is read in system information in "System Information Block type 11" or "System Information Block type 12" in the IE "FACH measurement occasion info".
- $n = 0, 1, 2, \dots$ as long as SFN is below its maximum value

The UE is allowed to measure on other occasions in case the UE moves "out of service" area or in case it can simultaneously perform the ordered measurements.

A UE in TDD mode shall use the frame(s) with the SFN value fulfilling the above equation for neighbour cells measurements.

----- omitted -----

8.6.2 UTRAN mobility information elements

8.6.2.1 URA identity

The UE shall:

- if the IE "URA identity" is included in a received message:
 - if the IE "RRC State Indicator" is included and set to "URA_PCH":
 - store this URA identity in the variable URA_IDENTITY;
 - after sending a possible message to UTRAN and entering URA_PCH state as specified elsewhere, read system information block type 2 in the selected cell;
 - if the stored URA identity in the variable URA_IDENTITY is not included in the list of URA identities in System Information Block type 2 in the selected cell, the list of URA identities in system information block type 2 is empty or if the system information block type 2 can not be found, a confirmation error of URA identity list has occurred:
 - if no URA update procedure is ongoing:
 - initiate a URA update procedure after entering URA_PCH state; see subclause 8.3.1.2;
 - if a URA update procedure is ongoing:
 - take actions as specified in subclause 8.3.1.10;
 - if the IE "URA identity" is not included in a received message:
 - if the IE "RRC State Indicator" is included and set to " URA_PCH":
 - after sending a possible message to UTRAN and entering URA_PCH state as specified elsewhere, read System Information Block type 2 in the selected cell;
 - if System Information Block type 2 in the selected cell contains a single URA identity:
 - store this URA identity in the variable URA_IDENTITY;
 - if System Information Block type 2 of the selected cell contains more than one URA identity, the list of URA identities in system information block type 2 is empty or if the system information block type 2 can not be found, a confirmation error of URA identity list has occurred:
 - if no URA update procedure is ongoing:
 - initiate a URA update procedure after entering URA_PCH state, see subclause 8.3.1.2;
 - if a URA update procedure is ongoing:
 - take actions as specified in subclause 8.3.1.10.

----- omitted -----

8.6.3.4 Ciphering mode info

The IE "Ciphering mode info" defines the new ciphering configuration. At any given time, the UE needs to store at most two different ciphering configurations at any given time for all signalling radio bearers and radio bearers, the old

and latest ciphering configurations, per CN domain. If the IE "Ciphering mode info" is present and if the IE "Reconfiguration" in the variable CIPHERING_STATUS is set to FALSE, the UE shall check the IE "Ciphering mode command" as part of the IE "Ciphering mode info", and perform the following. The UE shall:

- if the IE "Status" in the variable CIPHERING_STATUS of the CN domain
 - as indicated in the variable LATEST_CONFIGURED_CN_DOMAIN, if the variable LATEST_CONFIGURED_CN_DOMAIN has been initialised; or
 - as indicated in the IE "CN domain identity", if the variable LATEST_CONFIGURED_CN_DOMAIN is not initialised
- has the value "Not Started", and if the IE "Ciphering mode command" has the value "stop":
- ignore this attempt to change the ciphering configuration; and
 - set the variable INVALID_CONFIGURATION to TRUE;
- else:
- set the IE "Reconfiguration" in the variable CIPHERING_STATUS to TRUE;
 - if IE "Ciphering mode command" has the value "start/restart":
 - start or restart ciphering in lower layers for all established radio bearers in the variable ESTABLISHED_RABS, using the ciphering algorithm (UEA [40]) indicated by the IE "Ciphering algorithm" as part of the new ciphering configuration. For each radio bearer, the value of the IE "RB identity" in the variable ESTABLISHED_RABS minus one shall be used as the value of BEARER in the ciphering algorithm. The new ciphering configuration shall be applied as specified below;
 - set the IE "Status" in the variable CIPHERING_STATUS of the CN domain
 - as indicated in the variable LATEST_CONFIGURED_CN_DOMAIN, if the variable LATEST_CONFIGURED_CN_DOMAIN has been initialised; or
 - as indicated in the IE "CN domain identity", if the variable LATEST_CONFIGURED_CN_DOMAIN is not initialised
- to "Started";
- if the IE "Ciphering mode command" has the value "stop", the UE shall:
 - stop ciphering and stop incrementing COUNT-C values for all UL and DL signalling radio bearers and also for UL and DL transparent RLC mode radio bearers, only at the new ciphering configuration that shall be applied as specified below;
 - set the IE "Status" in the variable CIPHERING_STATUS of the CN domain
 - as indicated in the variable LATEST_CONFIGURED_CN_DOMAIN, if the variable LATEST_CONFIGURED_CN_DOMAIN has been initialised; or
 - as indicated in the IE "CN domain identity", if the variable LATEST_CONFIGURED_CN_DOMAIN is not initialised
- to "Not started";
- in case the IE "Ciphering mode command" has the value "start/restart" or "stop", the new ciphering configuration shall be applied as follows:
 - store the (oldest currently used) ciphering configuration until activation times have elapsed for the new ciphering configuration to be applied on all signalling radio bearers and radio bearers;
 - if there are pending activation times set for ciphering by a previous procedure changing the ciphering configuration:
 - apply the ciphering configuration at this pending activation time as indicated in this procedure;

- if the IE "Ciphering activation time for DPCH" is present in the IE "Ciphering mode info":
 - apply the new configuration at that time for radio bearers using RLC-TM. If the IE "Ciphering mode info" is present in a message reconfiguring RB, transport channel or physical channel, the indicated time in IE "~~Activation~~Ciphering activation time for DPCH" corresponds to a CFN after that reconfiguration;
- if the IE "Radio bearer downlink ciphering activation time info" is present in the IE "Ciphering mode info":
 - apply the following procedure for each radio bearer using RLC-AM and RLC-UM indicated by the IE "RB identity":
 - suspend data transmission on the radio bearer;
 - select an "RLC send sequence number" at which (activation) time the new ciphering configuration shall be applied in uplink for that radio bearer according to the following:
 - for each radio bearer and signalling radio bearer that has no pending ciphering activation time as set by a previous procedure changing the security configuration:
 - set a suitable value that would ensure a minimised delay in the change to the latest security configuration;
 - for each radio bearer and signalling radio bearer that has a pending ciphering activation time as set by a previous procedure changing the security configuration:
 - set the same value as the pending ciphering activation time;
 - consider this activation time to be elapsed when the selected activation time (as above) is equal to the "RLC send sequence number";
 - store the selected "RLC send sequence number" for that radio bearer in the entry for the radio bearer in the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO;
 - when the data transmission of that radio bearer is resumed:
 - switch to the new ciphering configuration according to the following:
 - use the old ciphering configuration for the transmitted and received RLC PDUs with RLC sequence numbers smaller than the corresponding RLC sequence numbers indicated in the IE "Radio bearer uplink ciphering activation time info" sent to UTRAN and in the received IE "Radio bearer downlink ciphering activation time info" received from UTRAN, respectively;
 - use the new ciphering configuration for the transmitted and received RLC PDUs with RLC sequence numbers greater than or equal to the corresponding RLC sequence numbers indicated in the IE "Radio bearer uplink ciphering activation time info" sent to UTRAN and in the received IE "Radio bearer downlink ciphering activation time info" received from UTRAN, respectively;
 - for a radio bearer using RLC-AM, when the RLC sequence number indicated in the IE "Radio bearer downlink ciphering activation time info" falls below the RLC receiving window and the RLC sequence number indicated in the IE "Radio bearer uplink ciphering activation time info" falls below the RLC transmission window, the UE may release the old ciphering configuration for that radio bearer;
 - if an RLC reset or re-establishment occurs before the activation time for the new ciphering configuration has been reached, ignore the activation time and apply the new ciphering configuration immediately after the RLC reset or RLC re-establishment.

If the IE "Ciphering mode info" is present and if the IE "Reconfiguration" in the variable CIPHERING_STATUS is set to TRUE, the UE shall:

- ignore this second attempt to change the ciphering configuration; and
- set the variable INCOMPATIBLE_SECURITY_RECONFIGURATION to TRUE.

If the IE "Ciphering mode info" is not present, the UE shall not change the ciphering configuration.

8.6.3.5 Integrity protection mode info

The IE "Integrity protection mode info" defines the new integrity protection configuration. At any given time, the UE needs to store at most two different integrity protection configurations for all signalling radio bearers, the old and newest integrity protection configurations, per CN domain. If the IE "Integrity protection mode info" is present and if the IE "Reconfiguration" in the variable ~~INTEGRITY_PROTECTION_STATUS~~ INTEGRITY_PROTECTION_INFO is set to FALSE, the UE shall check the IE "Integrity protection mode command" as part of the IE "Integrity protection mode info", and perform the following. The UE shall:

- if the IE "Integrity protection mode command" has the value "Modify" and the IE "Status" in the variable INTEGRITY_PROTECTION_INFO has the value "Not Started":
 - ignore this attempt to change the integrity protection configuration; and
 - set the variable INVALID_CONFIGURATION to TRUE;
- else:
 - set the IE "Reconfiguration" in the variable ~~INTEGRITY_PROTECTION_STATUS~~ INTEGRITY_PROTECTION_INFO to TRUE;
 - if IE "Integrity protection mode command" has the value "start" and the IE "Status" in the variable INTEGRITY_PROTECTION_INFO has the value "Not started":
 - if the IE "Historical status" in the variable INTEGRITY_PROTECTION_INFO has the value "Never been active":
 - initialise the information for all signalling radio bearers in the variable INTEGRITY_PROTECTION_INFO according to the following:
 - initialise the 20 MSB of the "Uplink RRC HFN" and "Downlink RRC HFN" of COUNT-I for this signalling radio bearer with the START value included in the most recently transmitted IE "START list" for the CN domain:
 - as indicated in the variable LATEST_CONFIGURED_CN_DOMAIN, if the variable LATEST_CONFIGURED_CN_DOMAIN has been initialised; or
 - as indicated in the IE "CN domain identity", if the variable LATEST_CONFIGURED_CN_DOMAIN has not been initialised;
 - set the remaining LSB of the "Uplink RRC HFN" and "Downlink RRC HFN" to zero;
 - set the IE "Uplink RRC Message sequence number" to zero;
 - do not include the IE "Downlink RRC Message sequence number";
 - set the IE "Historical status" in the variable INTEGRITY_PROTECTION_INFO to the value "Has been active";
 - set the IE "Status" in the variable INTEGRITY_PROTECTION_INFO to the value "Started";
 - perform integrity protection on the received message as described in subclause 8.5.10.1;
 - use the algorithm (UIA [40]) indicated by the IE "Integrity protection algorithm" contained in the IE "Integrity protection mode info";
 - use the IE "Integrity protection initialisation number", contained in the IE "Integrity protection mode info" as the value of FRESH [40];
 - if IE "Integrity protection mode command" has the value "start" and the IE "Status" in the variable INTEGRITY_PROTECTION_INFO has the value "Started":

NOTE: This case is used in SRNS relocation

- perform integrity protection on the received message as described in subclause 8.5.10.1;
- use the algorithm (UIA [40]) indicated by the IE "Integrity protection algorithm" contained in the IE "Integrity protection mode info";
- use the IE "Integrity protection initialisation number", contained in the IE "Integrity protection mode info" as the value of FRESH [40];
- if IE "Integrity protection mode command" has the value "modify" and the IE "Status" in the variable INTEGRITY_PROTECTION_INFO has the value "Started":
 - store the (oldest currently used) integrity protection configuration until activation times have elapsed for the new integrity protection configuration to be applied on all signalling radio bearers;
 - if there are pending activation times set for integrity protection by a previous procedure changing the integrity protection configuration:
 - apply the integrity protection configuration at this pending activation time as indicated in this procedure;
 - start applying the new integrity protection configuration in the downlink at the RRC sequence number, for each signalling radio bearer n, indicated by the entry for signalling radio bearer n in the "RRC message sequence number list" in the IE "Downlink integrity protection activation info", included in the IE "Integrity protection mode info";
- perform integrity protection on the received message as described in subclause 8.5.10.1;
- if present, use the algorithm indicated by the IE "Integrity protection algorithm" (UIA [40]);
- set the content of the variable INTEGRITY_PROTECTION_ACTIVATION_INFO according to the following:
 - for each established signalling radio bearer, stored in the variable ESTABLISHED_RABS:
 - select a value of the RRC sequence number at which (activation) time the new integrity protection configuration shall be applied in uplink for that signalling radio bearer according to the following:
 - for each signalling radio bearer that has no pending activation time as set for integrity protection by a previous procedure changing the integrity protection configuration:
 - set a suitable value that would ensure a minimised delay in the change to the latest integrity protection configuration;
 - for signalling radio bearer that has a pending activation time as set for integrity protection by a previous procedure changing the integrity protection configuration:
 - set the same value as the pending activation time for integrity protection;
 - consider this activation time to be elapsed when the selected activation time (as above) is equal to the next RRC sequence number to be used;
 - for signalling radio bearer RB0:
 - set the value of the included RRC sequence number to greater than or equal to the current value of the RRC sequence number for signalling radio bearer RB0 in the variable INTEGRITY_PROTECTION_INFO, plus the value of the constant N302 plus one;
- let RBm be the signalling radio bearer on which the message containing the IE "integrity protection mode info" was received;
- start applying the new integrity protection configuration in the uplink at the RRC sequence number, for each RBn, except for signalling radio bearer RBm, indicated by the entry for signalling radio bearer n in the "RRC message sequence number list" in the IE "Uplink integrity protection activation info", included in the variable INTEGRITY_PROTECTION_ACTIVATION_INFO;

- start applying the new integrity protection configuration in the uplink at the RRC sequence number for signalling radio bearer RB_m, as specified for the procedure initiating the integrity protection reconfiguration;

If the IE "Integrity protection mode info" is present and if the IE "Reconfiguration" in the variable INTEGRITY_PROTECTION_STATUS INTEGRITY_PROTECTION_INFO is set to TRUE, the UE shall:

- ignore this second attempt to change the integrity protection configuration; and
- set the variable INCOMPATIBLE_SECURITY_RECONFIGURATION to TRUE.

If the IE "Integrity protection mode info" is not present, the UE shall not change the integrity protection configuration.

----- omitted -----

8.6.4.1 Signalling RB information to setup list

If the IE "Signalling RB information to setup list" is included the UE shall:

- use the same START value to initialise the COUNT-C and COUNT-I variables for all the signalling radio bearers in the list;
- for each occurrence of the IE "Signalling RB information to setup":
 - use the value of the IE "RB identity" as the identity of the signalling radio bearer to setup;
 - if the variable LATEST_CONFIGURED_CN_DOMAIN has been initialised and the value "STATUS" of the variable "CIPHERING_STATUS" of the CN domain stored in this variable is "Started":
 - if the IE "Uplink RLC mode" or the IE "Downlink RLC mode" either in the IE "RLC info" or referenced by the RB identity in the IE "Same as RB" is set to "AM RLC" or "UM RLC":
 - initialise the 20 MSB of the hyper frame number component of COUNT-C for this signalling radio bearer with the START value for the CN domain as indicated in the variable "LATEST_CONFIGURED_CN_DOMAIN";
 - set the remaining LSB of the hyper frame number component of COUNT-C for this signalling radio bearer to zero;
 - if the IE "Uplink RLC mode" and the IE "Downlink RLC mode" either in the IE "RLC info" or referenced by the RB identity in the IE "Same as RB" is set to "TM RLC":
 - if no other transparent mode RLC radio bearers or signalling radio bearers in the variable "ESTABLISHED_RABS" exist:
 - initialise the 20 MSB of the hyper frame number component of COUNT-C for this signalling radio bearer with the START value for the CN domain as indicated in the variable LATEST_CONFIGURED_CN_DOMAIN;
 - set the remaining LSB of the hyper frame number component of COUNT-C for this signalling radio bearer to zero;
 - if at least one transparent mode RLC radio bearers or signalling radio bearers in the variable "ESTABLISHED_RABS" exist:
 - use, for this signalling radio bearer, the COUNT-C for transparent mode radio bearers and signalling radio bearers that is common (refer to subclause 8.5.8), for the CN domain as indicated in the variable LATEST_CONFIGURED_CN_DOMAIN;
 - if the variable LATEST_CONFIGURED_CN_DOMAIN has been initialised and the value "Status" of the variable "INTEGRITY_PROTECTION_INFO" of the CN domain stored in this variable is "Started":
 - initialise the 20 MSB of the hyper frame number component of COUNT-I for this signalling radio bearer with the START value for the CN domain as indicated in the variable LATEST_CONFIGURED_CN_DOMAIN;

- set the remaining LSB of the hyper frame number component of COUNT-I for this signalling radio bearer to zero;
- perform the actions for the IE "RLC info" as specified in subclause 8.6.4.9, applied for that signalling radio bearer;
- perform the actions for the IE "RB mapping info" as specified in subclause 8.6.4.8, applied for that signalling radio bearer;
- apply a default value of the IE "RB identity" equal to 1 for the first IE "Signalling RB information to setup"; and
- increase the default value by 1 for each occurrence.

----- omitted -----

8.6.4.3 RB information to setup

If the IE "RB information to setup" is included, the UE shall apply the following actions on the radio bearer identified with the value of the IE "RB identity". The UE shall:

- use the same START value to initialise the hyper frame number components of COUNT-C and COUNT-I variables for all the new UL and DL radio bearers to setup;
- perform the actions for the IE "PDCP info", if present, according to subclause 8.6.4.10, applied for the radio bearer;
- perform the actions for the IE "RLC info", according to subclause 8.6.4.9, applied for the radio bearer;
- perform the actions for the IE "RB mapping info", according to subclause 8.6.4.8, applied for the radio bearer;
- if the IE "Downlink RLC mode" either in the IE "RLC info" or referenced by the RB identity in the IE "Same as RB" is set to "TM RLC":
 - configure delivery of erroneous SDUs in lower layers according to indication from upper layer [5].
- if the IE "Uplink RLC mode" or the IE "Downlink RLC mode" either in the IE "RLC info" or referenced by the RB identity in the IE "Same as RB" is set to "AM RLC" or "UM RLC":
 - initialise the 20 MSB of the hyper frame number component of COUNT-C for this radio bearer with the START value for the CN domain as indicated in the IE "CN domain identity" in the IE "RAB info" part of the IE "RAB information for setup";
 - set the remaining LSB of the hyper frame number component of COUNT-C for this radio bearer to zero;
- if the IE "Uplink RLC mode" and the IE "Downlink RLC mode" either in the IE "RLC info" or referenced by the RB identity in the IE "Same as RB" is set to "TM RLC":
 - if no other transparent mode RLC radio bearers and signalling radio bearers exist in the variable ESTABLISHED_RABS:
 - initialise the 20 MSB of the hyper frame number component of COUNT-C for this radio bearer with the START value for the CN domain as indicated in the IE "CN domain identity" in the IE "RAB info" part of the IE "RAB information for setup";
 - set the remaining LSB of the hyper frame number component of COUNT-C for this radio bearer to zero;
 - if at least one transparent mode RLC radio bearers or signalling radio bearers exist in the variable ESTABLISHED_RABS:
 - set the MAC-d HFN component of the COUNT-C for this radio bearer with the MAC-d HFN that is common (refer to subclause 8.5.8) for the CN domain as indicated in the IE "CN domain identity" in the IE "RAB info" part of the IE "RAB information for setup";
- if the IE "Status" in the variable CIPHERING_STATUS of the CN domain as indicated in the IE "CN domain identity" in the IE "RAB info" in the variable ESTABLISHED_RABS is set to "Started":

- start to perform ciphering on the radio bearer in lower layers, using the value of the IE "RB identity" minus one as the value of BEARER in the ciphering algorithm.

NOTE: UTRAN should not use the IE "RB information to setup" to setup radio bearers with RB identity in the range 1-4.

----- omitted -----

8.6.4.8 RB mapping info

If the IE "RB mapping info" is included, the UE shall:

- for each multiplexing option of the RB:
 - if a transport channel that would not exist as a result of the message (i.e. removed in the same message in IE "Deleted DL TrCH information" and IE "Deleted UL TrCH information") is referred to:
 - set the variable INVALID_CONFIGURATION to TRUE;
 - if a multiplexing option that maps a logical channel corresponding to a TM-RLC entity onto RACH, CPCH, FACH or DSCH is included:
 - set the variable INVALID_CONFIGURATION to TRUE;
 - if the multiplexing option realises the radio bearer on the uplink (resp. on the downlink) using two logical channels with different values of the IE "Uplink transport channel type" (resp. of the IE "Downlink transport channel type"):
 - set the variable INVALID_CONFIGURATION to TRUE;
 - if that RB is using TM and the IE "Segmentation indication" is set to TRUE and, based on the multiplexing configuration resulting from this message, the logical channel corresponding to it is mapped onto the same transport channel as another logical channel:
 - set the variable INVALID_CONFIGURATION to TRUE;
 - if the transport channel considered in that multiplexing option is different from RACH and if that RB is using AM and the set of RLC sizes applicable to the logical channel transferring data PDUs has more than one element:
 - set the variable INVALID_CONFIGURATION to TRUE;
 - if that RB is using UM or TM and the multiplexing option realises it using two logical channels:
 - set the variable INVALID_CONFIGURATION to TRUE;
 - for each logical channel in that multiplexing option:
 - if the value of the IE "RLC size list" is set to "Explicit list":
 - if a "Transport format set" for the transport channel this logical channel is mapped on in this multiplexing option is included in the same message, and the value (index) of any IE "RLC size index" in the ~~IE "RLC size index list"~~ IE "Explicit list" does not correspond to an "RLC size" in the IE transport format set of that transport channel given in the message; or
 - if the transport channel this logical channel is mapped on in this multiplexing option is different from RACH, and if a "Transport format set" for that transport channel is not included in the same message, and the value (index) of any IE "RLC size index" in the ~~IE "RLC size index list"~~ IE "Explicit list" does not correspond to an "RLC size" in the stored transport format set of that transport channel; or
 - if a "Transport format set" for the transport channel this logical channel is mapped on in this multiplexing option is included in the same message, and the value of any IE "Logical channel list" in the transport format set is not set to "Configured"; or

- if a "Transport format set" for the transport channel this logical channel is mapped on in this multiplexing option is not included in the same message, and the value of any IE "Logical channel list" in the stored transport format set of that transport channel is not set to "Configured":
 - set the variable INVALID_CONFIGURATION to TRUE;
- if the value of the IE "RLC size list" is set to "All":
 - if a "Transport format set" for the transport channel this logical channel is mapped on in this multiplexing option is included in the same message, and the value of any IE "Logical channel list" in the transport format set is not set to "Configured"; or
 - if a "Transport format set" for the transport channel this logical channel is mapped on in this multiplexing option is not included in the same message, and the value of any IE "Logical channel list" in the stored transport format set of that transport channel is not set to "Configured":
 - set the variable INVALID_CONFIGURATION to TRUE;
- if the value of the IE "RLC size list" is set to "Configured":
 - if a "Transport format set" for the transport channel this logical channel is mapped on in this multiplexing option is included in the same message, and for none of the RLC sizes defined for that transport channel in the "Transport format set", the "Logical Channel List" is set to "All" or given as an "Explicit List" which contains this logical channel; or
 - if a "Transport format set" for the transport channel this logical channel is mapped on in this multiplexing option is not included in the same message, and for none of the RLC sizes defined in the transport format set stored for that transport channel, the "Logical Channel List" is set to "All" or given as an "Explicit List" which contains this logical channel:
 - set the variable INVALID_CONFIGURATION to TRUE;
- if, as a result of the message this IE is included in, several radio bearers can be mapped onto the same transport channel, and the IE "Logical Channel Identity" was not included in the RB mapping info of any of those radio bearers for a multiplexing option on that transport channel or the same "Logical Channel Identity" was used more than once in the RB mapping info of those radio bearers for the multiplexing options on that transport channel:
 - set the variable INVALID_CONFIGURATION to TRUE;
- delete all previously stored multiplexing options for that radio bearer;
- store each new multiplexing option for that radio bearer;
- select and configure the multiplexing options applicable for the transport channels to be used;
- if the IE "Uplink transport channel type" is set to the value "RACH":
 - refer the IE "RLC size index" to the RACH Transport Format Set of the first PRACH received in the IE "PRACH system information list" received in SIB5 or SIB6;
- determine the sets of RLC sizes that apply to the logical channels used by that RB, based on the IEs "RLC size list" and/or the IEs "Logical Channel List" included in the applicable "Transport format set" (either the ones received in the same message or the ones stored if none were received); and
- in case the selected multiplexing option is a multiplexing option on RACH:
 - ignore the RLC size indexes that do not correspond to any RLC size within the Transport Format Set stored for RACH;
- if RACH is the transport channel to be used on the uplink, if that RB has a multiplexing option on RACH and if it is using AM:
 - apply the largest size amongst the ones derived according to the previous bullet for the RLC size (or RLC sizes in case the RB is realised using two logical channels) for the corresponding RLC entity;

- if that RB is using AM and the RLC size applicable to the logical channel transporting data PDUs is different from the one derived from the previously stored configuration:
 - re-establish the corresponding RLC entity;
 - configure the corresponding RLC entity with the new RLC size;
 - if the IE "Status" in the variable CIPHERING_STATUS of the CN domain as indicated in the IE "CN domain identity" in the IE "RAB info" in the variable ESTABLISHED_RABS is set to "Started":
 - if this IE was included in system information:
 - set the HFN values for the corresponding RLC entity equal to the value of the IE "START" for the CN domain stored in the variable LATEST_CONFIGURED_CN_DOMAIN that will be included in the CELL UPDATE message that will be sent before the next transmission;
 - if this IE was included in CELL UPDATE CONFIRM:
 - set the HFN values for the corresponding RLC entity equal to the value of the IE "START" included in the latest transmitted CELL UPDATE message for the CN domain stored in the variable LATEST_CONFIGURED_CN_DOMAIN;
 - if this IE was included in a reconfiguration message:
 - set the HFN values for the corresponding RLC entity equal to the value of the IE "START" that will be included in the reconfiguration complete message for the CN domain stored in the variable LATEST_CONFIGURED_CN_DOMAIN;
- if that RB is using UM:
 - indicate the largest applicable RLC size to the corresponding RLC entity;
 - configure MAC multiplexing according to the selected multiplexing option (MAC multiplexing shall only be configured for a logical channel if the transport channel it is mapped on according to the selected multiplexing option is the same as the transport channel another logical channel is mapped on according to the multiplexing option selected for it);
 - configure the MAC with the logical channel priorities according to selected multiplexing option;
 - configure the MAC with the set of applicable RLC Sizes for each of the logical channels used for that RB;
 - if there is no multiplexing option applicable for the transport channels to be used:
 - set the variable INVALID_CONFIGURATION to TRUE;
 - if there is more than one multiplexing option applicable for the transport channels to be used:
 - set the variable INVALID_CONFIGURATION to TRUE.

In case IE "RB mapping info" includes IE "Downlink RLC logical channel info" but IE "Number of downlink RLC logical channels" is absent, the parameter values are exactly the same as for the corresponding UL logical channels. In case two multiplexing options are specified for the UL, the first options shall be used as default for the DL. As regards the IE "Channel type", the following rule should be applied to derive the DL channel type from the UL channel included in the IE:

Channel used in UL	DL channel type implied by "same as"
DCH	DCH
RACH	FACH
CPCH	FACH
USCH	DSCH

----- omitted -----

8.6.5.10 DL Transport channel information common for all transport channels

If the IE "DL Transport channel information common for all transport channels" is included the UE shall:

- if the IE "SCCPCH TFCS" is included:
 - set the variable INVALID_CONFIGURATION to TRUE;
- if the IE choice "mode" is set to FDD:
 - if the choice "DL parameters" is set to 'Independent':
 - if the IE "DL DCH TFCS" is included:
 - if the IE "SCCPCH TFCS" is included and the state the UE enters after handling the received information is other than CELL_DCH:
 - ignore the received IE "DL DCH TFCS";

NOTE: the IE "DL Transport channel information common for all transport channels" always includes a DL DCH TFCS configuration, either by including the IE "DL DCH TFCS" or by specifying that the TFCS is the same as in UL. If UTRAN does not require the reconfiguration of the concerned parameters, UTRAN may replace one TFC with the value that is already assigned for this IE.

- else:
 - perform actions as specified in subclause 8.6.5.2;
- if the IE choice "mode" is set to TDD:
 - if the IE "Individual DL CCTRCH information" is included:
 - for each DL TFCS identified by the IE "DL TFCS identity":
 - if the IE choice "DL parameters" is set to 'independent':
 - perform actions for the IE "DL TFCS" as specified in subclause 8.6.5.2;
 - if the IE choice "DL parameters" is set to 'same as UL':
 - if the IE "UL DCH TFCS identity" indicates an existing or a new UL TFCS:
 - store for that DL TFCS the TFCS identified by the IE "UL DCH TFCS identity";
 - else:
 - set the variable INVALID_CONFIGURATION to TRUE.

----- omitted -----

8.6.6.9 PDSCH with SHO DCH Info (FDD only)

If the IE "PDSCH with SHO DCH Info" is included, the UE shall:

- configure itself to receive the PDSCH from the specified radio link within the active set identified by the IE "DSCH radio link identifier";
- if the TFCI has a 'hard' split:
 - if the IE "TFCI(field2) combining set" is included:
 - configure the Layer 1 to combine soft only the DPCCH TFCI(field 2) of the radio links within the active set which are identified by the IE "Radio link identifier" in the IE "TFCI(field2) Combining set";
 - if the IE "TFCI(field2) combining set" is not included:
 - configure the L1 to combine soft the DPCCH TFCI(field 2) of all radio links within the active set.

----- omitted -----

8.6.6.25 SS DT Information

If the IE "SS DT Information" is included the UE shall:

- configure the size of the S-field in the FBI field on the uplink DPCCH to the value indicated in the IE "S-field";
- use the length of the temporary cell ID code for SS DT indicated in the IE "Code Word LengthSet".

----- omitted -----

8.6.6.27 Downlink information common for all radio links

If the IE "Downlink information common for all radio links " is included the UE shall:

- if the IE "Downlink DPCCH info common for all radio links-RL-" is included:
 - perform actions as specified in subclause 8.6.6.28;
- if the IE choice "mode" is set to 'FDD':
 - perform actions for the IE "DPCCH compressed mode info" as specified in subclause 8.6.6.15;
 - perform actions for the IE "Tx Diversity mode" as specified in subclause 8.6.6.24;
- if the IE "SS DT information" is included:
 - perform actions as specified in subclause 8.6.6.25;
- if the IE "Default DPCCH Offset value" is included:
 - perform actions as specified in the subclause 8.6.6.21.

8.6.6.28 Downlink DPCCH info common for all radio links

If the IE "Downlink DPCCH info common for all radio linksRL-" is included the UE shall:

- perform actions for the IE "Timing-indicatorindication" as specified in subclause 8.5.15.2;
- ignore the value received in IE "CFN-targetSFN frame offset";
- if the IE "Downlink DPCCH power control information" is included:
 - perform actions for the IE "DPC Mode" according to [29];
- if the IE choice "mode" is set to 'FDD':
 - if the IE "Downlink rate matching restriction information" is included:
 - perform downlink rate matching based on the TFCs composed of 'all the TFIs of the non-restricted Transport channel' and 'allowed TFIs in the restricted Transport channel' within given TFCS;
 - if the IE "Downlink rate matching restriction information" is not included:
 - cancel all the transport format restrictions if any and initiate the downlink rate matching based on all the TFCs in given TFCS;
- perform actions for the IE "spreading factor";
- perform actions for the IE "Fixed or Flexible position";
- perform actions for the IE "TFCI existence";

- if the IE choice "SF" is set to 256:
 - store the value of the IE "Number of bits for pilot bits";
- if the IE choice "SF" set to 128:
 - store the value of the IE "Number of bits for pilot bits";
- if the IE choice "mode" is set to "TDD":
 - perform actions for the IE "Common timeslot info".

If the IE "Downlink DPCCH info common for all ~~radio links-RL~~" is included in a message used to perform a Timing re-initialised hard handover, and ciphering is active for any radio bearer using RLC-TM, the UE shall, after having activated the dedicated physical channels indicated by that IE:

- increment HFN for RLC-TM by '1'.

----- omitted -----

8.6.7.6 Inter-RAT reporting quantity

If the IE "Inter-RAT reporting quantity" is received by the UE, the UE shall:

- store the content of the IE to the variable MEASUREMENT_IDENTITY.

If the IE "Inter-RAT measurement quantity" is received and CHOICE system is GSM, the UE shall check each quantity in the GSM choice. The UE shall include measured results in MEASUREMENT REPORT as specified in the IE "Inter-RAT reporting quantity" with the following restrictions:

- if the UE has not confirmed the BSIC of the measured cell:
 - if no compressed mode pattern sequence specified with measurement purpose "Initial BSIC identification" is active, the UE is not required to include the "inter-RAT cell id" nor "Observed time difference to GSM cell" in the IE "Inter-RAT measured results list", when a MEASUREMENT REPORT is triggered.
- if the UE has confirmed the BSIC of the measured cell, then:
 - if no compressed mode pattern sequence specified with measurement purpose "Initial BSIC identification" nor "BSIC re-confirmation" is active, the UE is not required to include the "inter-RAT cell id" nor "Observed time difference to GSM cell" in the IE "Inter-RAT measured results", when a MEASUREMENT REPORT is triggered. If no compressed mode pattern sequence with measurement purpose "GSM carrier RSSI measurements" is active, the UE may include "inter-RAT cell id" or "Observed time difference to GSM cell" in MEASUREMENT REPORT without "GSM carrier RSSI" even if it is defined in the IE "Inter-RAT reporting quantity".
- if the IE "UTRAN estimated ~~quantity quality~~" is set to "TRUE":
 - ignore that IE;
- if IE "Observed time difference to GSM cell" is set to "TRUE":
 - include optional IE "Observed time difference to GSM cell" with the value set to the time difference to that GSM cell for the GSM cells that have a BSIC that is "verified", and that match any of the BCCH ARFCN and BSIC combinations in the list of inter-RAT cells that the UE has received in IE "Inter-RAT cell info list". Observed time difference to GSM cells with "non-verified" BSIC shall not be included;
- if IE "GSM Carrier RSSI" is set to "TRUE":
 - include optional IE "GSM Carrier RSSI" with a value set to the measured RXLEV to that GSM cell in IE "Inter-RAT measured results list". If no compressed mode pattern sequence specified with measurement purpose "GSM carrier RSSI measurements" is active, the UE is not required to include the "GSM carrier RSSI" in the IE "Inter-RAT measured results list", when a MEASUREMENT REPORT is triggered;
- if the BSIC of reported GSM cell is "verified":

- set the CHOICE BSIC to "Verified BSIC" and IE "inter-RAT cell id" to the value that GSM cell had in the IE "Inter-RAT cell info list";
- if the BSIC of reported GSM cell is "non-verified":
 - set the CHOICE BSIC to "Non verified BSIC" and the IE "BCCH ARFCN" to the value of that GSM cells ARFCN;

The requirements for a cell to be considered "verified" or "non-verified" can be found in [19].

----- omitted -----

8.6.7.12 FACH measurement occasion info

IE "FACH measurement occasion info" is used to control UE measurement activities in inter-frequency and inter-RAT cells in CELL_FACH state.

If IE "FACH measurement occasion info" is received, UE shall, when in CELL_FACH state:

- if IE "FACH Measurement occasion cycle length coefficient" is included:
 - if, according to its measurement capabilities, UE is not able to perform some of the indicated measurements in this IE simultaneously as receiving the SCCPCH of serving cell:
 - perform those measurements during FACH measurement occasions, see subclause 8.5.11;
 - if, according to its measurement capabilities, UE is able to perform some of the indicated measurements in this IE simultaneously as receiving the SCCPCH of serving cell:
 - UE may perform measurements also on other occasions;
 - if, according to its measurement capabilities, UE is able to perform the measurements and indicated in this IE simultaneously as receiving the SCCPCH of serving cell:
 - perform the measurements simultaneously as receiving the SCCPCH of serving cell;
- if IE "FACH Measurement occasion cycle length coefficient" is not included:
 - perform those indicated measurements indicated in this IE that UE, according to its measurement capabilities, is able to perform simultaneously as receiving the SCCPCH of serving cell;
- if IE "Inter-frequency FDD measurement indicator" is set to TRUE:
 - perform measurements and evaluate cell re-selection criteria according to [4] on inter-frequency FDD cells listed in IE "Measurement control system information" in "System Information Block type 11" or "System Information Block type 12";
- if IE "Inter-frequency FDD measurement indicator" is set to FALSE:
 - neither perform measurements nor evaluate cell re-selection criteria on inter-frequency FDD cells;
- if IE "Inter-frequency TDD measurement indicator" is set to TRUE:
 - perform measurements and evaluate cell re-selection criteria according to [4] on inter-frequency TDD cells listed in IE "Measurement control system information" in "System Information Block type 11" or "System Information Block type 12";
- if IE "Inter-frequency TDD measurement indicator" is set to FALSE:
 - neither perform measurements nor evaluate cell re-selection criteria on inter-frequency TDD cells;
- if IE "Inter-RAT measurement indicators" is included:
 - perform measurements and evaluate cell re-selection criteria according to [4] on those cells of listed Inter-RAT types that are present in IE "Measurement control system information" in "System Information Block type 11" or "System Information Block type 12".

----- omitted -----

8.6.7.14 Inter-frequency measurement

If IE "Inter-frequency measurement" is received by the UE in a MEASUREMENT CONTROL message, where IE "measurement command" has the value "setup", but IE "Inter-frequency measurement quantity", IE "Inter-frequency reporting quantity" or "CHOICE Report criteria" is not received, the UE shall:

- clear all stored measurement control information related associated to this measurement identity in variable MEASUREMENT_IDENTITY;
- set the variable CONFIGURATION_INCOMPLETE to TRUE;
- in the case of an inter-frequency measurement for FDD:
 - if IE "Inter-frequency measurement" is received by the UE in a MEASUREMENT CONTROL message, where IE "measurement command" has the value "setup", if an inter-frequency event is configured that is different from event 2d or 2f, and if the IE "Inter-frequency SET UPDATE" is not received in that same message:
 - set the variable CONFIGURATION_INCOMPLETE to TRUE;
 - if the IE "Inter-frequency SET UPDATE" is received:
 - if the value of the ~~IE "Autonomous Set Update"~~ IE "UE autonomous update mode" set to "Off" or "On":
 - if more than one frequency is included in the list of cells pointed at in the IE "cells for measurement" if also included in the same IE "Inter-frequency measurement", or otherwise included in the "Inter-frequency cell info" part of the variable CELL_INFO_LIST:
 - set the variable INVALID_CONFIGURATION to TRUE.

If the variable CONFIGURATION_INCOMPLETE is set to TRUE, the UE shall:

- act as described in subclause 8.4.1.4a.

----- omitted -----

8.6.7.19.2 UE positioning OTDOA assistance data

If IE "UE positioning OTDOA reference cell info" is received in System Information Block type 15.4 or in the MEASUREMENT CONTROL message, the UE shall update the variable UE_POSITIONING_OTDOA_DATA accordingly. The UE shall:

- store received cell information in the UE positioning reference cell info in the variable UE_POSITIONING_OTDOA_DATA, overwriting any existing information.

If IE "UE positioning OTDOA neighbour cell list" is received in System Information Block type 15.4 or in the MEASUREMENT CONTROL message, the UE shall update the variable UE_POSITIONING_OTDOA_DATA accordingly. The UE shall:

- store received cell information in the neighbour cell info list in the variable CELL_INFO_LIST, overwriting any existing information.

If, according to its capabilities, UE does not support IPDLs and if IE "IPDL parameters" is received for the reference or any of the neighbour cells, the UE shall:

- ignore this IE.

If IE "UE positioning measurement" is received in the MEASUREMENT CONTROL message, the UE shall also perform the following consistency checks:

- if IE "Positioning Methods" is set to "OTDOA" or "Cell ID":
 - if IE "UE positioning OTDOA reference cell info" is not included and if UE positioning OTDOA reference cell info in variable UE_POSITIONING_OTDOA_DATA is empty:

- set the variable CONFIGURATION_INCOMPLETE to TRUE;
- if IE "Positioning Methods" is set to "OTDOA":
 - if IE "UE positioning OTDOA neighbour cell list" is not included and if less than two neighbour cells are stored in UE positioning OTDOA neighbour cell info list in variable UE_POSITIONING_OTDOA_DATA:
 - set the variable CONFIGURATION_INCOMPLETE to TRUE;
 - if IE "Method Type" is set to "UE based":
 - if IE "UE positioning OTDOA reference cell info" is included and if IE "Cell Position" for the reference cell is not included:
 - set the variable CONFIGURATION_INCOMPLETE to TRUE;
 - if the IE "UE positioning OTDOA neighbour cell list" is included and if cell position of less than two neighbour cells of the cells included in this IE and stored in variable UE_POSITIONING_OTDOA_DATA are different and if those cell positions are not different to the one of the reference cell stored in variable UE_POSITIONING_OTDOA_DATA:
 - set the variable CONFIGURATION_INCOMPLETE to TRUE;
 - if the IE "UE positioning OTDOA neighbour cell list" is included and only two neighbour cells are included or stored in variable UE_POSITIONING_OTDOA_DATA and if the IE "Round Trip Time" is neither included for the neighbour cells nor for the reference cell info:
 - set the variable CONFIGURATION_INCOMPLETE to TRUE.

8.6.7.19.3 UE positioning GPS assistance data

8.6.7.19.3.1 UE positioning GPS acquisition assistance

If the IE "UE positioning GPS acquisition assistance" is included, the UE shall:

- store IE "GPS reference time" in the IE "UE positioning **GPS** reference time" in UE_POSITIONING_GPS_DATA;
- for each satellite:
 - update the variable UE_POSITIONING_GPS_DATA as follows:
 - store received GPS acquisition assistance at the position indicated by the IE "Sat ID" in the IE "UE positioning GPS acquisition assistance" in the variable UE_POSITIONING_GPS_DATA, possibly overwriting any existing information in this position.

8.6.7.19.3.2 UE positioning GPS Almanac

If the IE "UE positioning GPS Almanac" is included, for each satellite, the UE shall:

- update the variable UE_POSITIONING_GPS_DATA as follows:
 - store received GPS almanac information at the position indicated by the IE "Sat ID" in the IE "UE positioning GPS Almanac" in the variable UE_POSITIONING_GPS_DATA, possibly overwriting any existing information in this position.

8.6.7.19.3.3 UE positioning D-GPS Corrections

If the IE "UE positioning GPS DGPS corrections" is included, the UE shall:

- delete all information currently stored in the IE "UE positioning GPS DGPS corrections" in the variable UE_POSITIONING_GPS_DATA;
- store the received DGPS corrections in the IE "UE positioning GPS DGPS corrections" in the variable UE_POSITIONING_GPS_DATA.

8.6.7.19.3.4 UE positioning GPS Ephemeris and Clock Correction Parameters

If the IE "UE positioning GPS Ephemeris and Clock Correction parameters" is included, for each satellite, the UE shall:

- update the variable UE_POSITIONING_GPS_DATA as follows:
 - store received GPS ephemeris information at the position indicated by the IE "Sat ID" in the IE "UE positioning GPS Navigation Model" in the variable UE_POSITIONING_GPS_DATA, possibly overwriting any existing information in this position.

8.6.7.19.3.5 UE positioning GPS ionospheric model

If IE "UE positioning GPS ionospheric model" is included, the UE shall:

- store this IE in the IE "UE positioning GPS ionospheric model" in variable UE_POSITIONING_GPS_DATA.

8.6.7.19.3.6 UE positioning GPS real-time integrity

The GPS real-time integrity information element specified in subclause 10.3.7.95 is primarily intended for non-differential applications. The real-time integrity of the satellite constellation is of importance as there is no differential correction data by which the UE can determine the soundness of each satellite signal. The Real-Time GPS Satellite Integrity data communicates the health of the constellation to the mobile via a list of bad satellites. The UE shall consider the data associated with the satellites identified in this IE as invalid.

If this is included, for each satellite, the UE shall:

- add the Sat IDs that are not yet included in the list of satellites in the IE "UE positioning GPS real time integrity" in the variable UE_POSITIONING_GPS_DATA;
- remove all Sat IDs in the list of satellites in the IE "UE positioning GPS real time integrity" in the variable UE_POSITIONING_GPS_DATA that are not included in IE UE positioning GPS real time integrity.

8.6.7.19.3.7 UE positioning GPS reference time

If the IE "UE positioning GPS reference time" is included, the UE shall:

- store this IE in "UE positioning GPS reference time" in variable UE_POSITIONING_GPS_DATA;
- for each satellite:
 - store received GPS TOW assist at the position indicated by the IE "Sat ID" in the IE "UE positioning GPS reference time" in the variable UE_POSITIONING_GPS_DATA, possibly overwriting any existing information in this position.

----- omitted -----

10.2.45 SECURITY MODE FAILURE

This message is sent to indicate a failure to act on a received SECURITY MODE ~~CONTROL~~ COMMAND message.

RLC-SAP: AM

Logical channel: DCCH

Direction: UE→UTRAN

Information Element/Group name	Need	Multi	Type and reference	Semantics description
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	
Failure cause	MP		Failure cause and error information 10.3.3.14	

----- omitted -----

10.3.2.3 Cell selection and re-selection info for SIB3/4

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Mapping Info	OP		Mapping info 10.3.2.5	This IE should not be sent.
Cell_selection_and_reselection_quality_measure Cell selection and reselection quality measure	MP		Enumerated (CPICH Ec/N0, CPICH RSCP)	Choice of measurement (CPICH Ec/N0 or CPICH RSCP) to use as quality measure Q for FDD cells. This IE is also sent to the UE in SIB11/12. Both occurrences of the IE should be set to the same value.
CHOICE mode	MP			
>FDD				
>>S _{intrasearch}	OP		Integer (-32..20 by step of 2)	If a negative value is received the UE shall consider the value to be 0. [4] [dB]
>>S _{intersearch}	OP		Integer (-32..20 by step of 2)	If a negative value is received the UE shall consider the value to be 0. [4] [dB]
>>S _{searchHCS}	OP		Integer (-105..91 by step of 2)	If a negative value is received the UE shall consider the value to be 0. [4] [dB]
>>RAT List	OP	1 to <maxOther RAT>		
>>>RAT identifier	MP		Enumerated (GSM, cdma2000)	
>>>S _{search,RAT}	MP		Integer (-32..20 by step of 2)	In case the value 20 is received the UE shall consider this IE as if it was absent according to [4] If a negative value is received the UE shall consider the value to be 0. [dB]
>>>S _{HCS,RAT}	OP		Integer (-105..91 by step of 2)	If a negative value is received the UE shall consider the value to be 0. [4] [dB]
>>>S _{limit,SearchRAT}	MP		Integer (-32..20 by step of 2)	If a negative value is received the UE shall consider the value to be 0. [4] [dB]
>>Q _{qualmin}	MP		Integer (-24..0)	Ec/N0, [dB]
>>Q _{rxlevmin}	MP		Integer (-115..-25 by step of 2)	RSCP, [dBm]
>TDD				
>>S _{intrasearch}	OP		Integer (-105..91 by step of 2)	If a negative value is received the UE shall consider the value to be 0. [4] [dB]
>>S _{intersearch}	OP		Integer (-	If a negative value is received

			105..91 by step of 2)	the UE shall consider the value to be 0. [4] [dB]
>>S _{searchHCS}	OP		Integer (-105..91 by step of 2)	If a negative value is received the UE shall consider the value to be 0. [4] [dB]
>>RAT List	OP	1 to <maxOther RAT>		
>>>RAT identifier	MP		Enumerated (GSM, cdma2000)	
>>>S _{search,RAT}	MP		Integer (-105..91 by step of 2)	In case the value 91 is received the UE shall consider this IE as if it was absent according to [4] If a negative value is received the UE shall consider the value to be 0. [dB]
>>>S _{HCS,RAT}	OP		Integer (-105..91 by step of 2)	If a negative value is received the UE shall consider the value to be 0. [4] [dB]
>>>S _{limit,SearchRAT}	MP		Integer (-105..91 by step of 2)	If a negative value is received the UE shall consider the value to be 0. [4] [dB]
>>Q _{rxlevmin}	MP		Integer (-115..-25 by step of 2)	RSCP, [dBm]
Q _{hyst1s}	MP		Integer (0..40 by step of 2)	[4] [dB]
Q _{hyst2s}	CV-FDD-Quality-Measure		Integer (0..40 by step of 2)	Default value is Q _{hyst1s} [4] [dB]
T _{reselections}	MP		Integer (0..31)	[s]
HCS Serving cell Information	OP		HCS Serving cell information 10.3.7.12	
Maximum allowed UL TX power	MP		Maximum allowed UL TX power 10.3.6.39	[dBm] UE_TXPWR_MAX_RACH in [4].

Condition	Explanation
FDD-Quality-Measure	The IE is not needed if the IE " Cell_selection_and_reselection_quality_measure Cell selection and reselection quality measure" has the value CPICH RSCP, otherwise the IE is mandatory and has a default value.

10.3.2.4 Cell selection and re-selection info for SIB11/12

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Qoffset1 _{s,n}	MD		Integer(-50..50)	Default value is 0. [dB]
Qoffset2 _{s,n}	CV-FDD-Quality-Measure		Integer(-50..50)	Default value is 0. [dB]
Maximum allowed UL TX power	MD		Maximum allowed UL TX power 10.3.6.39	[dBm] UE_TXPWR_MAX_RACH in [4]. Default is the Maximum allowed UL TX power for the serving cell
HCS neighbouring cell information	OP		HCS Neighbouring cell information 10.3.7.11	
CHOICE mode	MP			
>FDD				
>>Qqualmin	CV-FDD-Serving-Cell		Integer (-24..0)	Ec/NO, [dB] Default value is Qqualmin for the serving cell
>>Qrxlevmin	MD		Integer (-115..-25 by step of 2)	RSCP, [dBm] Default value is Qrxlevmin for the serving cell
>TDD				
>>Qrxlevmin	MD		Integer (-115..-25 by step of 2)	RSCP, [dBm] Default value is Qrxlevmin for the serving cell
>GSM				
>>Qrxlevmin	MD		Integer (-115..-25 by step of 2)	GSM RSSI, [dBm] Default value is Qrxlevmin for the serving cell

Condition	Explanation
FDD-Quality-Measure	This IE is mandatory and has a default value for Intra/Inter Frequency Cells if the IE " Cell_selection_and_reselection_quality_measureCell_selection_and_reselection_quality_measure " has the value CPICH Ec/No. Otherwise the IE is optional
FDD-Serving-Cell	This IE is mandatory and has a default value if the serving cell is an FDD cell. Otherwise the IE is mandatory present.

----- omitted -----

10.3.6.11 Constant value

This constant value is used by the UE to calculate the initial output power on PRACH according to the Open loop power control procedure. In TDD constant values are used for open loop power control of PRACH, USCH and UL DPCH as defined in subclause 8.5.7.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Constant value	MP		Integer (-35..-10)	In dB

10.3.7.10 HCS Cell re-selection information

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Penalty_time	MD		Integer(0, 10, 20, 30, 40, 50, 60)	Default value is 0 which means = not used In seconds
Temporary_offsets	<i>CV-Penalty used</i>			
>Temporary_offset1	MP		Integer(3, 6, 9, 12, 15, 18, 21, inf)	[dB]
>Temporary_offset2	<i>CV-FDD-Quality-Measure</i>		Integer(2, 3, 4, 6, 8, 10, 12, inf)	[dB]

Condition	Explanation
<i>Penalty used</i>	This IE is not needed if the IE "Penalty time" equals "not used", else it is mandatory present.
<i>FDD-Quality-Measure</i>	This IE is not needed if the IE " Cell_selection_and_reselection_quality_measure Cell selection and reselection quality measure" has the value CPICH RSCP, otherwise the IE is mandatory present. This conditional presence is implemented in ASN.1 by the use of a specific RSCP and EcN0 variant of 10.3.7.10.

----- omitted -----

10.3.7.33 Intra-frequency cell info list

Contains the information for the list of measurement objects for an intra-frequency measurement.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
CHOICE <i>Intra-frequency cell removal</i>	OP			Absence of this IE is equivalent to choice "Remove no intra-frequency cells".
>Remove all intra-frequency cells				No data
>Remove some intra-frequency cells				
>>Removed intra-frequency cells	MP	1 to <maxCellMeas>		
>>>Intra-frequency cell id	MP		Integer(0 .. <maxCellMeas> - 1)	
>Remove no intra-frequency cells				
New intra-frequency cells	OP	1 to <maxCellMeas>		This information element must be present when "Intra-frequency cell info list" is included in the system information
>Intra-frequency cell id	OP		Integer(0 .. <maxCellMeas> - 1)	
>Cell info	MP		Cell info 10.3.7.2	
Cells for measurement	CV- <i>BCHopt</i>	1 to <maxCellMeas>		
>Intra-frequency cell id	MP		Integer(0 .. <maxCellMeas>-1)	

Condition	Explanation
<i>BCHopt</i>	This IE is not needed when sent in SYSTEM INFORMATION. Otherwise, the IE is Optional

----- omitted -----

10.3.7.47 Measurement control system information

Information element/Group name	Need	Multi	Type and reference	Semantics description
Use of HCS	MP		Enumerated (Not used, used)	Indicates if the serving cell belongs to a HCS structure
Cell selection and reselection quality measure Cell selection and reselection quality measure	MP		Enumerated (CPICH Ec/N0, CPICH RSCP)	Choice of measurement (CPICH Ec/N0 or CPICH RSCP) to use as quality measure Q.
Intra-frequency measurement system information	OP		Intra-frequency measurement system information 10.3.7.40	
Inter-frequency measurement system information	OP		Inter-frequency measurement system information 10.3.7.20	
Inter-RAT measurement system information	OP		Inter-RAT measurement system information 10.3.7.31	
Traffic volume measurement system information	OP		Traffic volume measurement system information 10.3.7.73	
UE Internal measurement system information	OP		UE Internal measurement system information 10.3.7.81	

----- omitted -----

14.3.1 Inter-RAT reporting events

Within the measurement reporting criteria field in the MEASUREMENT CONTROL message the UTRAN notifies the UE which events should trigger the UE to send a MEASUREMENT REPORT message. The listed events are the toolbox from which the UTRAN can choose the reporting events that are needed for the implemented handover evaluation function, or other radio network functions.

All events are measured with respect to one of the measurement quantities given in subclause 14.3.0a, and of the frequency quality estimate given in subclause 14.3.0b. For UTRAN the measurement quantities are measured on the monitored primary common pilot channels (CPICH) in FDD mode and the monitored primary common control channels (PCCPCH) in TDD mode of the cell defined in the measurement object. For other RATs the measurement quantities are system-specific. A "used UTRAN frequency" is a frequency that the UE have been ordered to measure upon and is also currently used for the connection to UTRAN. "Other system" is e.g. GSM.

In the text below describing the events:

- "The BCCH ARFCN and BSIC combinations considered in that inter-RAT measurement" shall be understood as the BCCH ARFCN and BSIC combinations of the inter-RAT cells pointed at in the IE "Cells for measurements" if it has been received for that inter-RAT measurement, or otherwise of the cells included in the "inter-RAT cell info" part of the variable CELL_INFO LIST.

- "The BCCH ARFCNs considered in that inter-RAT measurement" shall be understood as the BCCH ARFCNs of the inter-RAT cells pointed at in the IE "Cells for measurements" if it has been received for that inter-RAT measurement, or otherwise of the cells included in the "inter-RAT cell info" part of the variable CELL_INFO LIST.

----- omitted -----

14.5 Quality Measurements

14.5.1 Quality reporting measurement quantities

For quality measurements, the following measurement quantities are used:

1. Downlink transport channel BLER
2. Timeslot SIR (TDD only)

----- omitted -----

14.11.1 Initial virtual active set

The way the UE shall act when a MEASUREMENT CONTROL message is received that sets up or modifies an inter-frequency measurement, and that includes the IE "Inter-frequency set update" and/or the IE "Intra-Frequency ~~measurement~~ reporting quantity" is described below. The UE shall:

- if the IE "Intra-Frequency measurement reporting criteria" is included in the MEASUREMENT CONTROL message, or if it was previously stored and if the IE "Inter-frequency set update" was included in the MEASUREMENT CONTROL message:
 - if the IE "UE autonomous update mode" received or previously stored is set to "on" or "on with no reporting":
 - for each non-used frequency F_i considered in the measurement:
 - include in the initial virtual active set the N_i cells that have either the greatest downlink E_c/N_0 , the greatest downlink RSCP after despreading, or the lowest pathloss (depending on what is indicated in the IE "inter-frequency measurement quantity"), among the cells on frequency F_i considered in that inter-frequency measurement, where:

$$N_i = \min(N_{Ia}, N_{Cells\ F_i}) \text{ if } N_{Ia} \neq 0 \text{ and } N_i = N_{Cells\ F_i} \text{ otherwise.}$$

where:

N_{Ia} is the "Reporting deactivation threshold" included in the "Intra-Frequency measurement" IE received for that inter-frequency measurement for event 1a.

$N_{Cells\ F_i}$ is the number of cells on frequency F_i considered in that inter-frequency measurement.

- else, if event 1c is configured in the "Intra-Frequency measurement reporting criteria":

$$N_i = \min(N_{Ic}, N_{Cells\ F_i}) \text{ if } N_{Ic} \neq 0 \text{ and } N_i = N_{Cells\ F_i} \text{ otherwise.}$$

where:

N_{Ic} is the "Replacement activation threshold" included in the "Intra-Frequency measurement" IE received for that inter-frequency measurement for event 1c.

$N_{Cells Fi}$ is the number of cells on frequency F_i considered in that inter-frequency measurement.

- else:

$$N_i = N_{Cells Fi}$$

where:

$N_{Cells Fi}$ is the number of cells on frequency F_i considered in that inter-frequency measurement;

- if the IE "UE autonomous update mode" received or previously stored is set to "on":
 - if event 1a is configured in the "Intra-Frequency measurement reporting criteria":
 - send a MEASUREMENT REPORT with IEs set as follows:
 - set the Measurement identity to the identity of the inter-frequency measurement;
 - set the CHOICE event result in the IE Event results to Intra-frequency measurement event results, Intra-frequency event identity to 1a, and in "Cell measurement event results" the CPICH info of all the cells included in a virtual active set of the non-used frequency considered in the inter-frequency measurement;
 - do not include the IE "measured results".
 - else, if event 1c is configured in the "Intra-Frequency measurement reporting criteria":
 - send a measurement report with IEs set as follows:
 - set the Measurement identity to the identity of the inter-frequency measurement;
 - set the CHOICE event result in the IE Event results to Intra-frequency measurement event results, Intra-frequency event identity to 1c, and in "Cell measurement event results" the CPICH info of all the cells included in the virtual active set of the frequency considered in the inter-frequency measurement;
 - do not include the IE "measured results";
- if the IE "Inter-frequency set update" is included in the message and if the IE "UE autonomous update mode" is set to "Off":
 - if the IE "Measurement command" is set to "Modify", if the value previously stored for the ~~IE "UE autonomous update set"~~ IE "UE autonomous update mode" was also "Off" and if the IE "Intra-frequency measurement reporting criteria" was not included in the message:
 - apply the modifications indicated in the "Inter-frequency set update" to the virtual active set that was valid before the message was received for the non-used frequency considered in that inter-frequency measurement.
 - otherwise:
 - remove the possibly existing virtual active set of the non-used frequency considered in that measurement; and
 - set the initial virtual active set for it according to the "Inter-frequency set update" included in the message;
- if the IE "Inter-frequency set update" is not included in the message and if the IE "UE autonomous update mode" stored for the inter-frequency measurement is set to "Off":
 - remove the possibly existing virtual active set of the non-used frequency considered in that measurement; and

- consider the virtual active set for it as empty.
- if the IE "Intra-Frequency measurement reporting criteria" was not included in the MEASUREMENT CONTROL message:
 - if the IE "UE autonomous update mode" is set to "on" or "on with no reporting":
 - for each non-used frequency F_i considered in the measurement:
 - include in the initial virtual active set the N_i cells that have either the greatest downlink E_c/N_0 or the greatest downlink RSCP after despreading or the lowest pathloss (depending on what is indicated in the IE "inter-frequency measurement quantity"), among the cells on frequency F_i considered in that inter-frequency measurement, where:
 - if event 1a is configured for the used frequency in an intra-frequency measurement; and
 - if the "Reporting deactivation threshold" is included:

$$N_i = \min(N_{Ia}, N_{Cells Fi}) \text{ if } N_{Ia} \neq 0 \text{ and } N_i = N_{Cells Fi} \text{ otherwise.}$$

where:

N_{Ia} is the "Reporting deactivation threshold" included in the intra-frequency measurement for the first event 1a defined in the intra-frequency measurement with the lowest identity.

$N_{Cells Fi}$ is the number of cells on frequency F_i considered in that inter-frequency measurement.

- else, if event 1c is configured for the used frequency in an intra-frequency measurement:

$$N_i = \min(N_{Ic}, N_{Cells Fi}) \text{ if } N_{Ic} \neq 0 \text{ and } N_i = N_{Cells Fi} \text{ otherwise.}$$

where:

N_{Ic} is the "Replacement activation threshold" included in the "Intra-Frequency measurement" for the first event 1c defined in the intra-frequency measurement with the lowest identity.

$N_{Cells Fi}$ is the number of cells on frequency F_i considered in that inter-frequency measurement.

- else:

$$N_i = N_{Cells Fi}$$

where:

$N_{Cells Fi}$ is the number of cells on frequency F_i considered in that inter-frequency measurement.

- if the IE "UE autonomous update mode" is set to "on":
 - if event 1a is configured for the used frequency in an intra-frequency measurement:
 - send a measurement report with IEs set as follows:
 - set the Measurement identity to the identity of the inter-frequency measurement;
 - set the CHOICE event result in the IE Event results to Intra-frequency measurement event results, Intra-frequency event identity to 1a, and in "Cell measurement event results" the CPICH info of all the cells included in the initial virtual active set of the non-used frequency considered in that measurement;
 - do not include the IE "measured results".
 - else, if event 1c is configured for the used frequency in an intra-frequency measurement:
 - send a measurement report with IEs set as follows:

- set the Measurement identity to the identity of the inter-frequency measurement;
 - set the CHOICE event result in the IE Event results to Intra-frequency measurement event results, Intra-frequency event identity to 1c, and in "Cell measurement event results" the CPICH info of all the cells included in the initial virtual active set of the non-used frequency considered in that measurement;
 - do not include the IE "measured results".
- if the IE "UE autonomous update mode" is set to "off":
 - set the initial virtual active set of the non-used frequency considered in that inter-frequency measurement according to what is included in the IE "Inter-frequency set update" included in the message; and
 - if the IE "Inter-frequency set update" was not received:
 - set the initial virtual active set for the frequencies considered in that measurement to be empty.

CHANGE REQUEST

⌘ **25.331 CR 1111** ⌘ ev **-** ⌘ Current version: **4.2.1** ⌘

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

Proposed change affects: ⌘ (U)SIM ME/UE Radio Access Network Core Network

Title:	⌘ Correction to Information Element names		
Source:	⌘ TSG-RAN WG2		
Work item code:	⌘ TEI	Date:	⌘ 20.11.2001
Category:	⌘ A	Release:	⌘ REL-4
	<i>Use <u>one</u> of the following categories:</i> 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 .		<i>Use <u>one</u> of the following releases:</i> 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)

Reason for change: ⌘ To make sure that the procedure description works properly it is necessary that all IEs and UE variables used are spelled same and usage is described clearly, when they are used. In this document some inconsistencies are pointed out and necessary solutions are introduced.

Furthermore (clause 8.2.10.3) the IE "Constant value" does not exist and according to tabular rather IEs "PRACH Constant Value" and "PUSCH Constant Value" should be taken into account by the UE for uplink open loop power control

In the clauses 8.6.4.1 and 8.6.4.3 both the IE "Signalling RB information to setup" and the IE "RB information to setup" contain a choice between the IE "RLC info" and the IE "Same as RB". However, only the dependency on the IE "RLC info" was described.

Summary of change: ⌘ **Aligning names throughout the specification and minor corrections:**

Name: IE "U-RNTI" IE "Activation time for DPCH" IE "additional measurements" IE "Autonomous Set Update" IE "BCCH modification information" IE "BCCH Modification Information" IE "Cell for measurements" Cell_selection_and_reselection_quality_measure IE "Code Word Length" IE "Downlink DPCH info common for all radio links " RL" IE "Downlink DPCH info common for all RL" radio links"	is replaced by: IE "New U-RNTI" IE "Ciphering activation time for DPCH" IE "Additional measurements list" IE "UE autonomous update mode" IE "BCCH modification info" IE "BCCH modification info" IE "Cells for measurement" Cell selection and reselection quality measure IE "Code Word Set" IE "Downlink DPCH info common for all RL" IE "Downlink DPCH info common for all radio links"
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IE "FACH Measurement occasion length coefficient"	IE "FACH Measurement occasion cycle length coefficient"
IE "Intra-Frequency measurement reporting quantity"	IE "Intra-Frequency reporting quantity"
New Intra-frequency cell	New Intra-frequency cells
IE "OTDOA ciphering info"	IE "OTDOA Data ciphering info"
IE "Primary CPICH DL TX power"	IE "Primary CPICH TX power"
Primary CPICH DL TX power	Primary CPICH TX power
IE "Reporting information for CELL_DCH"	IE "Reporting information for state CELL_DCH"
IE "RLC re-establish indicator (RB>4) upwards)"	IE "RLC re-establish indicator (RB5 and upwards)"
IE "RLC size index list"	IE "Explicit list"
IE "Target cell info"	IE "Target cell description"
IE "TFCI combining set"	IE "TFCI(field2) combining set"
IE "Timing indicator"	IE "Timing indication"
IE "Traffic volume measurements system information"	IE "Traffic volume measurement system information"
IE "UE autonomous update set"	IE "UE autonomous update mode"
IE "UE positioning GPS real time integrity"	IE "UE positioning GPS real-time integrity"
IE "UE positioning OTDOA neighbouring cell list"	IE "UE positioning OTDOA neighbour cell list"
IE "UE positioning reference time"	IE "UE positioning GPS reference time"
IE "UL DPCH Info"	IE "Uplink DPCH Info"
IE "UL DPCH Power Control Info"	IE "Uplink DPCH Power Control Info"
IE "UTRAN estimated quantity"	IE "UTRAN estimated quality"
SECURITY MODE CONTROL	SECURITY MODE COMMAND
INTEGRITY_PROTECTION_STATUS	INTEGRITY_PROTECTION_INFO
IE "Intra-frequency/Inter-frequency/Inter-RAT cell info list"	IE "Intra-frequency cell info list"/"Inter-frequency cell info list"/"Inter-RAT cell info list"
"Integrity protection activation info"	"Uplink integrity protection activation info"
UL Special Burst generation period	„Special Burst Generation Period"
Inter-RAT change failure	Inter-RAT handover failure
failure cause	Inter-RAT change failure
inter system measurements	inter-RAT measurements

In the clause 8.6.2.1 missing "if" is added into the text:

the IE "RRC State Indicator" is included and set to " URA_PCH":
- if the IE "RRC State Indicator" is included and set to "URA_PCH":

In procedure description in clause 8.2.10.3, the name of IE "Constant value" was replaced with relevant IE "PRACH Constant Value" and IE "PUSCH Constant Value" according to tabular.

In clauses 8.6.4.1, 8.6.4.3 the description for IE "Same as RB" is added:

- if the IE "Uplink RLC mode" or the IE "Downlink RLC mode" either in the IE "RLC info" or referenced by the RB identity in the IE "Same as RB" is set to "AM RLC" or "UM RLC":
- if the IE "Downlink RLC mode" either in the IE "RLC info" or referenced by the RB identity in the IE "Same as RB" is set to "TM RLC":

- if the IE "Uplink RLC mode" or the IE "Downlink RLC mode" either in the IE "RLC info" or referenced by the RB identity in the IE "Same as RB" is set to "AM RLC" or "UM RLC":

Isolated Impact Analysis:

- Correction to a function where the specification was:
 - ambiguous or not sufficiently explicit.

Would not affect implementations behaving like indicated in the CR, would affect implementations supporting the corrected functionality otherwise.

Affected function:

The CR intends to correct some misalignments between tabular form and procedural descriptions in 25.331 and has isolated impact.

Consequences if not approved: ☹ Procedural descriptions may be not sufficiently clear and ambiguous.

Clauses affected: ☹ 8.1.1.6.11, 8.1.1.6.12, 8.1.1.6.15.4, 8.1.1.7.2, 8.1.12.3, 8.1.2.2, 8.2.2.3, 8.2.2.7, 8.2.10.3, 8.3.1.6, 8.3.3.3, 8.3.4.3, 8.3.6.2, 8.3.7.5, 8.3.7.8, 8.3.7.8a, 8.3.11.3, 8.3.11.7, 8.4.1.7.1, 8.4.1.9.4, 8.4.2.2, 8.5.7, 8.5.11, 8.6.2.1, 8.6.3.4, 8.6.3.5, 8.6.4.1, 8.6.4.3, 8.6.4.8, 8.6.6.9, 8.6.6.25, 8.6.6.27, 8.6.6.28, 8.6.7.6, 8.6.7.12, 8.6.7.14, 8.6.7.19.2, 8.6.7.19.3.1, 10.2.45, 10.3.2.3, 10.3.2.4, 10.3.6.11, 10.3.7.10, 10.3.7.33, 10.3.7.47, 14.3.1, 14.11.1

Other specs affected: ☹ Other core specifications ☹ 25.331 v3.8.0, CR 1110r1
 Test specifications
 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/3G_Specs/CRs.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.

8.1.1.6.11 System Information Block type 11

The UE should store all relevant IEs included in this system information block. The UE shall:

- if IE "FACH measurement occasion info" is included:
 - act as specified in subclause 8.6.7.
- else:
 - may perform inter-frequency/inter-RAT measurements or inter-frequency/inter-RAT cell re-selection evaluation, if the UE capabilities permit such measurements while simultaneously receiving the S-CCPCH of the serving cell;
- if in connected mode, and System Information Block type 12 is indicated as used in the cell:
 - read and act on information sent in System Information Block type 12;
- for each measurement type:
 - start a measurement using the set of IEs specified for that measurement type;
- associate each measurement with the identity number given by the IE "Measurement identity";
- clear the variable CELL_INFO_LIST;
- act upon the received ~~IE "Intra-frequency/Inter-frequency/Inter-RAT cell info list"~~ IE "Intra-frequency cell info list" / "Inter-frequency cell info list" / "Inter-RAT cell info list" as described in subclause 8.6.7.3;
- if included, store the IE "Intra-frequency reporting quantity" and the IE "Intra-frequency measurement reporting criteria" or "Periodical reporting criteria" in order to activate reporting when state CELL_DCH is entered;
- if IE "Use of HCS" is set to "used", indicating that HCS is used, do the following:
 - if IE "HCS neighbouring cell information" is not included in the first occurrence of IE "Intra-frequency cell info list":
 - use the default values specified for the IE "HCS neighbouring cell information" for that cell;
 - if IE "HCS neighbouring cell information" is not included in other occurrence of IE "Intra-frequency cell info list":
 - for that cell use the same parameter values as used for the preceding IE "Intra-frequency cell info list";
 - if IE "HCS neighbouring cell information" is not included in the first occurrence of IE "Inter-frequency cell info list":
 - use the default values specified for the IE "HCS neighbouring cell information" for that cell;
 - if IE "HCS neighbouring cell information" is not included in other occurrence of IE "Inter-frequency cell info list":
 - for that cell use the same parameter values as used for the preceding IE "Inter-frequency cell info list";
 - if IE "HCS neighbouring cell information" is not included in the first occurrence of IE "Inter-RAT Cell info list":
 - use the default values specified for the IE "HCS neighbouring cell information" for that cell;
 - if IE "HCS neighbouring cell information" is not included in other occurrence of IE "Inter-RAT cell info list":
 - for that cell use the same parameter values as used for the preceding IE "Inter-RAT cell info list";
- if the value of the IE "Cell selection and reselection quality measure" is different from the value of the IE "Cell selection and reselection quality measure" obtained from System Information Block type 3 or System Information Block type 4:

- use the value of the IE from this System Information Block and ignore the value obtained from System Information Block type 3 or System Information Block type 4.

8.1.1.6.12 System Information Block type 12

If in connected mode, the UE should store all relevant IEs included in this system information block. The UE shall:

- if IE "FACH measurement occasion info" is included:
 - act as specified in subclause 8.6.7.
- else:
 - perform neither inter-frequency/inter-RAT measurements nor inter-frequency/inter-RAT cell re-selection evaluation, independent of UE measurement capabilities;
- for each measurement type:
 - start (or continue) a measurement using the set of IEs specified for that measurement type;
- act upon the received ~~IE "Intra-frequency/Inter-frequency/Inter-RAT cell info list"~~ IE "Intra-frequency cell info list" / "Inter-frequency cell info list" / "Inter-RAT cell info list" as described in subclause 8.6.7.3;
- if any of the IEs "Intra-frequency measurement quantity", "Intra-frequency reporting quantity for RACH reporting", "Maximum number of reported cells on RACH" or "Reporting information for state CELL_DCH" are not included in the system information block:
 - read the corresponding IE(s) in system information block type 11 and use that information for the intra-frequency measurement;
- if included in this system information block or in System Information Block type 11
 - store the IE "Intra-frequency reporting quantity" and the IE "Intra-frequency measurement reporting criteria" or "Periodical reporting criteria" in order to activate reporting when state CELL_DCH is entered;
- if the IE "Inter-frequency measurement quantity" is not included in the system information block:
 - read the corresponding IE in System Information Block type 11 and use that information for the inter-frequency measurement;
- if the IE "Inter-RAT measurement quantity" is not included in the system information block:
 - read the corresponding IE in System Information Block type 11 and use that information for the inter-RAT measurement;
- if in state CELL_FACH:
 - start traffic volume measurement reporting as specified in the IE "Traffic volume reporting quantity";
 - associate each measurement with the identity number given by the IE "Measurement identity";
- if IE "Use of HCS" is set to "used", indicating that HCS is used, do the following:
 - if IE "HCS neighbouring cell information" is not included in the first occurrence of IE "Intra-frequency cell info list":
 - use the default values specified for the IE "HCS neighbouring cell information" for that cell;
 - if IE "HCS neighbouring cell information" is not included in other occurrence of IE "Intra-frequency cell info list":
 - for that cell use the same parameter values as used for the preceding IE "Intra-frequency cell info list";
 - if IE "HCS neighbouring cell information" is not included in the first occurrence of IE "Inter-frequency cell info list":
 - use the default values specified for the IE "HCS neighbouring cell information" for that cell;

- if IE "HCS neighbouring cell information" is not included in other occurrence of IE "Inter-frequency cell info list":
 - for that cell use the same parameter values as used for the preceding IE "Inter-frequency cell info list";
- if IE "HCS neighbouring cell information" is not included in the first occurrence of IE "Inter-RAT cell info list":
 - use the default values specified for the IE "HCS neighbouring cell information" for that cell;
- if IE "HCS neighbouring cell information" is not included in other occurrence of IE "Inter-RAT cell info list":
 - for that cell use the same parameter values as used for the preceding IE "Inter-RAT cell info list".
- if the value of the IE "Cell selection and reselection quality measure" is different from the value of the IE "Cell selection and reselection quality measure" obtained from System Information Block type 3 or System Information Block type 4:
 - use the value of the IE from this System Information Block and ignore the value obtained from System Information Block type 3 or System Information Block type 4.

If in idle mode, the UE shall not use the values of the IEs in this system information block.

----- omitted -----

8.1.1.6.15.4 System Information Block type 15.4

If the UE is in idle or connected mode, and supports the UE-based OTDOA UE positioning method the UE shall:

- act as specified in subclause 8.6.7.19.3.2;
- store IE "OTDOA Data ciphering info" in OTDOA Data ciphering info in variable UE_POSITIONING_OTDOA_DATA if it is included.

----- omitted -----

8.1.1.7.2 Synchronised modification of system information blocks

For modification of some system information elements, e.g. reconfiguration of the channels, it is important for the UE to know exactly when a change occurs. In such cases, the UTRAN should notify the SFN when the change will occur as well as the new value tag for the master information block in the IE "BCCH modification info" transmitted in the following way:

- To reach UEs in idle mode, CELL_PCH state and URA_PCH state, the IE "BCCH modification info" is contained in a PAGING TYPE 1 message transmitted on the PCCH in all paging occasions in the cell;
- To reach UEs in CELL_FACH state, the IE "BCCH modification info" is contained in a SYSTEM INFORMATION CHANGE INDICATION message transmitted on the BCCH mapped on at least one FACH on every Secondary CCPCH in the cell.

Upon reception of a PAGING TYPE 1 message or a SYSTEM INFORMATION CHANGE INDICATION message containing the IE "BCCH modification info" containing the IE "MIB value tag" and containing the "IE BCCH modification time", the UE shall:

- perform the actions as specified in subclause 8.1.1.7.3 at the time, indicated in the ~~IE "BCCH Modification Information"~~ IE "BCCH modification info".

----- omitted -----

8.1.2.2 Initiation

UTRAN initiates the paging procedure by transmitting a PAGING TYPE 1 message on an appropriate paging occasion on the PCCH.

UTRAN may repeat transmission of a PAGING TYPE 1 message to a UE in several paging occasions to increase the probability of proper reception of a page.

UTRAN may page several UEs in the same paging occasion by including one IE "Paging record" for each UE in the PAGING TYPE 1 message.

For CN originated paging, UTRAN should set the IE "Paging cause" to the cause for paging received from upper layers. If no cause for paging is received from upper layers, UTRAN should set the value "Terminating – cause unknown".

UTRAN may also indicate that system information has been updated, by including the value tag of the master information block in the IE "BCCH modification information" in the PAGING TYPE 1 message. In this case, UTRAN may omit the IEs "Paging record".

----- omitted -----

8.1.12.3 Reception of SECURITY MODE COMMAND message by the UE

Upon reception of the SECURITY MODE COMMAND message, the UE shall perform the actions for the received information elements according to subclause 8.6.

If the IE "Ciphering mode info" and the IE "Integrity protection mode info" are both not included in the SECURITY MODE COMMAND, the UE shall:

- set the variable INVALID_CONFIGURATION to TRUE.

If the IE "Security capability" is the same as indicated by variable UE_CAPABILITY_TRANSFERRED, and the IE "GSM security capability" (if included in the SECURITY MODE COMMAND) is the same as indicated by the variable UE_CAPABILITY_TRANSFERRED, the UE shall:

- set the variable LATEST_CONFIGURED_CN_DOMAIN equal to the IE "CN domain identity";
- if prior to the reception of SECURITY MODE COMMAND, the value of the IE "Status" in the variable "CIPHERING_STATUS" of the CN domain stored in the variable LATEST_CONFIGURED_CN_DOMAIN is "Not started" and the value of the IE "Historical status" in the variable "INTEGRITY_PROTECTION_INFO" is "Never been active":
 - use the value "START" in the most recently sent IE "START list" that belongs to the CN domain as indicated in the IE "CN domain identity" to initialise all hyper frame numbers for all the signalling radio bearers; while
 - setting the 20 most significant bits of the hyper frame numbers for all signalling radio bearers to the START for that CN domain;
 - setting the remaining bits of the hyper frame numbers equal to zero;
- suspend all radio bearers and signalling radio bearers (except the signalling radio bearer used to transmit the SECURITY MODE COMPLETE message on the uplink DCCH in RLC-AM) using RLC-AM or RLC-UM that belong to the CN domain indicated in the IE "CN domain identity"; and
- set the "RLC send sequence number" in IE "Radio bearer uplink ciphering activation time info", at which time the new ciphering configuration shall be applied;
- set the IE "RRC transaction identifier" in the SECURITY MODE COMPLETE message to the value of "RRC transaction identifier" in the entry for the SECURITY MODE COMMAND message in the table "Accepted transactions" in the variable TRANSACTIONS; and
- clear that entry;

- if the SECURITY MODE COMMAND message contained the IE "Ciphering mode info":
 - include and set the IE "Radio bearer uplink ciphering activation time info" to the value of the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO, for the respective radio bearer and signalling radio bearer;
- if the SECURITY MODE COMMAND message contained the IE "Integrity protection mode info" with the IE "Integrity protection mode command" set to "Modify":
 - include and set the IE "Uplink integrity protection activation info" to the value of the variable INTEGRITY_PROTECTION_ACTIVATION_INFO;
- for radio bearers using RLC-TM:
 - apply the old ciphering configuration for the receiving and transmission of RLC TrD PDUs with CFN less than the number indicated in the IE "Ciphering activation time for DPCH", as sent by the UTRAN;
 - apply the new ciphering configuration for the receiving and transmission of RLC TrD PDUs with CFN greater than or equal to the number indicated in IE "Ciphering activation time for DPCH", as sent by the UTRAN;
- when the radio bearers and signalling radio bearers using RLC-AM or RLC-UM have been suspended:
 - send a SECURITY MODE COMPLETE message on the uplink DCCH in AM RLC, using the old ciphering configurations;
 - if the IE "Integrity protection mode info" was present in the SECURITY MODE COMMAND message:
 - start applying the new integrity protection configuration in the uplink for signalling radio bearer RB2 from and including the transmitted SECURITY MODE COMPLETE message;
- when the successful delivery of the SECURITY MODE COMPLETE message has been confirmed by RLC:
 - resume data transmission on any suspended radio bearer and signalling radio bearer mapped on RLC-AM or RLC-UM;
 - if the SECURITY MODE COMMAND message contained the IE "Ciphering mode info":
 - set the IE "Reconfiguration" in the variable CIPHERING_STATUS to FALSE; and
 - clear the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO;
 - if the SECURITY MODE COMMAND message contained the IE "Integrity protection mode info":
 - set the IE "Reconfiguration" in the variable INTEGRITY_PROTECTION_INFO to FALSE; and
 - clear the variable INTEGRITY_PROTECTION_ACTIVATION_INFO;
 - the procedure ends. If a RLC reset or re-establishment occurs after the SECURITY MODE COMPLETE message has been confirmed by RLC, but before the activation time for the new ciphering configuration has been reached, then the activation time shall be ignored and the new ciphering configuration shall be applied immediately after the RLC reset or RLC re-establishment;
 - notify upper layers upon change of the security configuration;
 - if a new security key set has been received for the CN domain as indicated in the variable LATEST_CONFIGURED_CN_DOMAIN:
 - set the START value for this CN domain to 0.

For radio bearers and signalling radio bearers used by the CN indicated in the IE "CN domain identity", the UE shall:

- if a new integrity protection key has been received:
 - in the downlink:
 - use the new key;

- set the IE "Downlink RRC HFN" for all signalling radio bearers in the variable INTEGRITY_PROTECTION_INFO of the downlink COUNT-I to zero when the RRC sequence number in a received RRC message on the particular signalling radio bearer reaches the value for that signalling radio bearer indicated in IE "Downlink integrity protection activation info" included in the IE "Integrity protection mode info";

in the uplink:

- use the new key;
- set the IE "Uplink RRC HFN" for all signalling radio bearers in the variable INTEGRITY_PROTECTION_INFO of the uplink COUNT-I to zero when the RRC sequence number in a transmitted RRC message on the particular signalling radio bearer reaches the value for that signalling radio bearer indicated in IE "Uplink integrity protection activation info";
- if a new ciphering key is available:
 - for radio bearers using RLC-TM:
 - use the new key in uplink and downlink;
 - set the HFN component of the COUNT-C to zero at the CFN as indicated in the IE "Ciphering activation time for DPCH" in the IE "Ciphering mode info";
 - for radio bearers using RLC-AM and RLC-UM:
 - in the downlink, at and after the RLC sequence number indicated in IE "Radio bearer downlink ciphering activation time info" in the IE "Ciphering mode info":
 - use the new key;
 - set the HFN component of the downlink COUNT-C to zero;
 - in the uplink, at and after the RLC sequence number indicated in IE "Radio bearer uplink ciphering activation time info":
 - use the new key;
 - set the HFN component of the uplink COUNT-C to zero.

If the IE "Security capability" is not the same as indicated by the variable UE_CAPABILITY_TRANSFERRED, or the IE "GSM security capability" (if included in the SECURITY MODE COMMAND) is not the same as indicated by the variable UE_CAPABILITY_TRANSFERRED, or if the IE "GSM security capability" is not included in the SECURITY MODE COMMAND and is included in the variable UE_CAPABILITY_TRANSFERRED, the UE shall:

- release all its radio resources;
- indicate the release of the established signalling connections (as stored in the variable ESTABLISHED_SIGNALLING_CONNECTIONS) and established radio access bearers (as stored in the variable ESTABLISHED_RABS) to upper layers;
- clear the variable ESTABLISHED_SIGNALLING_CONNECTIONS;
- clear the variable ESTABLISHED_RABS;
- enter idle mode;
- perform actions when entering idle mode as specified in subclause 8.5.2;
- and the procedure ends.

----- omitted -----

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 be able to receive any of the following messages:

- RADIO BEARER SETUP message; or
- RADIO BEARER RECONFIGURATION message; or
- RADIO BEARER RELEASE message; or
- TRANSPORT CHANNEL RECONFIGURATION message; or
- PHYSICAL CHANNEL RECONFIGURATION message

and perform a hard handover, even if no prior UE measurements have been performed on the target cell and/or frequency.

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:

- set the variable ORDERED_RECONFIGURATION to TRUE;
- perform the physical layer synchronisation procedure as specified in [29];
- 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 first release the physical channel configuration used at reception of the reconfiguration message. The UE shall then:

- 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:
 - act upon the IE "PDSCH code mapping" as specified in subclause 8.6 and;
 - infer that the PDSCH will be transmitted from the cell from which the downlink DPCH is transmitted;
- 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:

- 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:

- remove any C-RNTI from MAC;
- clear the variable C_RNTI.

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

- if the IE "~~UL~~Uplink DPCH Info" is absent, not change its current UL Physical channel configuration;
- if the IE "~~DL DPCH Info for each RL~~" IE "Downlink information for each radio link" is absent, not change its current DL Physical channel configuration.

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

- if the IE "Frequency info" is included in the received reconfiguration message:
 - select a suitable UTRA cell according to [4] on that frequency;
- if the IE "Frequency info" is not included in the received reconfiguration message:
 - select a suitable UTRA cell according to [4];
- 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):
 - initiate a cell update procedure according to subclause 8.3.1 using the cause "Cell reselection";
 - when the cell update procedure completed successfully:
 - 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";
 - proceed as below;
- 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 system information block type 1;
- select PRACH according to subclause 8.5.17;
- select Secondary CCPCH according to subclause 8.5.19;
- use the transport format set given in system information;
- if the IE "UTRAN DRX cycle length coefficient" is included in the same message:
 - ignore that IE and stop using DRX;
- if the contents of the variable C_RNTI is empty:
 - perform a cell update procedure according to subclause 8.3.1 using the cause "Cell reselection";
 - when the cell update procedure completed successfully:
 - 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";
 - proceed as below;

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:

- if the received reconfiguration message included the IE "Downlink counter synchronisation info":
 - re-establish RB2;
 - increment by one the downlink and uplink HFN values for RB2;

- calculate the START value according to subclause 8.5.9;
- include the calculated START values for each CN domain in the IE "START list" in the IE "Uplink counter synchronisation info";
- if the received reconfiguration message did not include the IE "Downlink counter synchronisation info":
 - if the variable START_VALUE_TO_TRANSMIT is set:
 - include and set the IE "START" to the value of that variable;
 - if the variable START_VALUE_TO_TRANSMIT is not set and the IE "New U-RNTI" is included:
 - calculate the START value according to subclause 8.5.9;
 - include the calculated START values for each CN domain in the IE "START list" in the IE "Uplink counter synchronisation info";
- if the received reconfiguration message contained the IE "Ciphering mode info":
 - include and set the IE "Radio bearer uplink ciphering activation time info" to the value of the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO;
- if the received reconfiguration message contained the IE "Integrity protection mode info" with the IE "Integrity protection mode command" set to "Modify":
 - include and set the IE "Uplink integrity protection activation info" to the value of the variable INTEGRITY_PROTECTION_ACTIVATION_INFO;
- if the received reconfiguration message did not contain the IE "Ciphering activation time for DPCH" in IE "Ciphering mode info":
 - if prior to this procedure there exist no transparent mode RLC radio bearers:
 - if, at the conclusion of this procedure, the UE will be in CELL_DCH state; and
 - if, at the conclusion of this procedure, at least one transparent mode RLC radio bearer exists:
 - include the IE "COUNT-C activation time" and specify a CFN value other than the default, "Now", for this IE;
 - if prior to this procedure there exists at least one transparent mode RLC radio bearer:
 - if, at the conclusion of this procedure, no transparent mode RLC radio bearers exist:
 - include the IE "COUNT-C activation time" in the response message and specify a CFN value other than the default, "Now", for this IE;
- 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
- clear that entry;
- if the variable PDCP_SN_INFO is not empty:
 - include the IE "RB with PDCP information list" and set it to the value of the variable PDCP_SN_INFO;
- 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):
 - set the IE "Uplink Timing Advance" according to subclause 8.6.6.26;
- if the IE "Integrity protection mode info" was present in the received reconfiguration message:
 - 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 CELL_PCH or URA_PCH state, the UE shall, after the state transition and transmission of the response message:

- if the IE "Frequency info" is included in the received reconfiguration message:
 - select a suitable UTRA cell according to [4] on that frequency;
- if the IE "Frequency info" is not included in the received reconfiguration message:
 - select a suitable UTRA cell according to [4];
- prohibit periodical status transmission in RLC;
- remove any C-RNTI from MAC;
- clear the variable C_RNTI;
- 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 system information block type 1;
- select Secondary CCPCH according to subclause 8.5.19;
- if the IE "UTRAN DRX cycle length coefficient" is included in the same message:
 - 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;
- if the UE enters CELL_PCH state from CELL_DCH state, and 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):
 - initiate a cell update procedure according to subclause 8.3.1 using the cause "cell reselection";
 - when the cell update procedure completed successfully:
 - the procedure ends;
- if the UE enters CELL_PCH state from CELL_FACH state, and 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:
 - initiate a cell update procedure according to subclause 8.3.1 using the cause "cell reselection";
 - when the cell update procedure is successfully completed:
 - the procedure ends;
- if the UE enters URA_PCH state, and after cell selection the criteria for URA update caused by "URA reselection" according to subclause 8.3.1 is fulfilled:
 - initiate a URA update procedure according to subclause 8.3.1 using the cause "URA reselection";
 - when the URA update procedure is successfully completed:
 - the procedure ends.

-----omitted-----

8.2.2.7 Physical channel failure

A physical channel failure occurs in case the criteria defined in subclause 8.5.4 are not fulfilled.

If the received message caused the UE to be in CELL_DCH state and the UE failed to establish the dedicated physical channel(s) indicated in the received message the UE shall:

- revert to the configuration prior to the reception of the message (old configuration);
- if the old configuration includes dedicated physical channels (CELL_DCH state) and the UE is unable to revert to the old configuration:
 - select a suitable UTRA cell according to [4];
 - initiate a cell update procedure according to subclause 8.3.1, using the cause "radio link failure";
 - after the cell update procedure has completed successfully:
 - proceed as below;
- if the old configuration does not include dedicated physical channels (CELL_FACH state):
 - select a suitable UTRA cell according to [4];
 - if the UE selects another cell than the cell the UE camped on upon reception of the reconfiguration message:
 - initiate a cell update procedure according to subclause 8.3.1, using the cause "Cell reselection";
 - after the cell update procedure has completed successfully:
 - proceed as below;
- transmit a failure response message as specified in subclause 8.2.2.9, setting the information elements as specified below:
 - include the IE "RRC transaction identifier"; and
 - set it to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and
 - clear that entry;
 - set the IE "failure cause" to "physical channel failure";
- set the variable ORDERED_RECONFIGURATION to FALSE;
- continue with any ongoing processes and procedures as if the reconfiguration message was not received;

The procedure ends.

----- omitted -----

8.2.10.3 Reception of UPLINK PHYSICAL CHANNEL CONTROL message by the UE

Upon reception of the UPLINK PHYSICAL CHANNEL CONTROL message, the UE shall:

- act upon all received information elements as specified in subclause 8.6.

In 3.84 Mcps TDD, if the IEs "Uplink DPCH Power Control Info", "PRACH Constant Value", "PUSCH Constant Value", "Alpha" or IE group "list of UL Timeslot Interference" are transmitted, this information shall be taken into account by the UE for uplink open loop power control as specified in subclause 8.5.7. If the UE is capable of using IPDLs for UE positioning, the IE "IPDL-Alpha" shall be used instead of the IE "Alpha". If the IE "IPDL-Alpha" parameter is not present, the UE shall use IE "Alpha".

If the IE Special Burst Scheduling" is transmitted the UE shall:

- use the new value for the "UL-Special Burst gGeneration pPeriod".

The UE shall:

- clear the entry for the UPLINK PHYSICAL CHANNEL CONTROL message in the table "Accepted transactions" in the variable TRANSACTIONS;

- and the procedure ends.

----- omitted -----

8.3.1.6 Reception of the CELL UPDATE CONFIRM/URA UPDATE CONFIRM message by the UE

When the UE receives a CELL UPDATE CONFIRM/URA UPDATE CONFIRM message; and

- if the message is received on the CCCH, and IE "U-RNTI" is present and has the same value as the variable U_RNTI, or;
- if the message is received on DCCH;

the UE shall:

- stop timer T302;
- in case of a cell update procedure and the CELL UPDATE CONFIRM message:
 - includes "RB information elements"; and/or
 - includes "Transport channel information elements"; and/or
 - includes "Physical channel information elements"; and
 - if the variable ORDERED_RECONFIGURATION is set to FALSE:
 - set the variable ORDERED_RECONFIGURATION to TRUE;
- act upon all received information elements as specified in subclause 8.6, unless specified otherwise in the following:
 - use the transport channel(s) applicable for the physical channel types that is used; and
 - if the IE "TFS" is neither included nor previously stored in the UE for that transport channel(s):
 - use the TFS given in system information.
 - if none of the TFS stored is compatible with the physical channel:
 - delete the stored TFS;
 - use the TFS given in system information.
 - perform the physical layer synchronisation procedure as specified in [29];
 - if the CELL UPDATE CONFIRM message includes the IE "RLC re-establish indicator (RB2, RB3 and RB4)":
 - re-establish the RLC entities for signalling radio bearer RB2, signalling radio bearer RB3 and signalling radio bearer RB4 (if established);
 - if the value of the IE "Status" in the variable CIPHERING_STATUS of the CN domain stored in the variable LATEST_CONFIGURED_CN_DOMAIN is set to "Started":
 - set the HFN values for AM RLC entities with RB identity 2, RB identity 3 and RB identity 4 (if established) equal to the START value included in the latest transmitted CELL UPDATE message for the CN domain stored in the variable LATEST_CONFIGURED_CN_DOMAIN;
 - if the CELL UPDATE CONFIRM message includes the IE "RLC re-establish indicator (~~RB2, RB3 and RB4~~) (RB5 and upwards)":
 - for radio bearers with RB identity 5 and upwards ~~larger than 4~~:

- re-establish the AM RLC entities;
- if the value of the IE "Status" in the variable CIPHERING_STATUS of the CN domain as indicated in the IE "CN domain identity" in the IE "RAB info" in the variable ESTABLISHED_RABS is set to "Started":
 - set the HFN values for AM RLC entities equal to the START value included in this CELL UPDATE message for the CN domain as indicated in the IE "CN domain identity" in the IE "RAB info" in the variable ESTABLISHED_RABS;
- enter a state according to subclause 8.6.3.3 applied on the CELL UPDATE CONFIRM / URA UPDATE CONFIRM message.

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

- not prohibit periodical status transmission in RLC.

If the UE after state transition remains in CELL_FACH state, it shall

- start the timer T305 using its initial value if timer T305 is not running and periodical cell update has been configured by T305 in the IE "UE Timers and constants in connected mode" set to any other value than "infinity";
- select PRACH according to subclause 8.5.17;
- select Secondary CCPCH according to subclause 8.5.19;
- not prohibit periodical status transmission in RLC;
- if the IE "UTRAN DRX cycle length coefficient" is included in the same message:
 - ignore that IE and stop using DRX;

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

- prohibit periodical status transmission in RLC;
- clear the variable C_RNTI;
- stop using that C_RNTI just cleared from the variable C_RNTI in MAC;
- start the timer T305 using its initial value if timer T305 is not running and periodical update has been configured by T305 in the IE "UE Timers and constants in connected mode" set to any other value than "infinity";
- select Secondary CCPCH according to subclause 8.5.19;
- if the IE "UTRAN DRX cycle length coefficient" is included in the same message:
 - 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 in CELL_PCH state.

If the UE after the state transition remains in CELL_FACH state and;

- the contents of the variable C_RNTI are empty;

it shall check the value of V302 and

- If V302 is equal to or smaller than N302:
 - if, caused by the received CELL UPDATE CONFIRM or URA UPDATE CONFIRM message,
 - the IE "Reconfiguration" in the variable CIPHERING_STATUS is set to TRUE; and/or
 - the IE "Reconfiguration" in the variable INTEGRITY_PROTECTION_INFO is set to TRUE:
 - abort the ongoing integrity and/or ciphering reconfiguration;

- if the received CELL UPDATE CONFIRM or URA UPDATE CONFIRM message contained the IE "Ciphering mode info":
 - set the IE "Reconfiguration" in the variable CIPHERING_STATUS to FALSE; and
 - clear the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO;
- if the received CELL UPDATE CONFIRM or URA UPDATE CONFIRM message contained the IE "Integrity protection mode info":
 - set the IE "Reconfiguration" in the variable INTEGRITY_PROTECTION_INFO to FALSE; and
 - clear the variable INTEGRITY_PROTECTION_ACTIVATION_INFO;
- in case of a URA update procedure:
 - stop the URA update procedure; and
 - continue with a cell update procedure;
- set the contents of the CELL UPDATE message according to subclause 8.3.1.3, except for the IE "Cell update cause" which shall be set to "cell reselection";
- submit the CELL UPDATE message for transmission on the uplink CCCH;
- increment counter V302;
- restart timer T302 when the MAC layer indicates success or failure to transmit the message;
- If V302 is greater than N302:
 - clear the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO;
 - clear the variable INTEGRITY_PROTECTION_ACTIVATION_INFO;
 - in case of a cell update procedure:
 - clear the entry for the CELL UPDATE CONFIRM message in the table "Rejected transactions" in the variable TRANSACTIONS;
 - in case of a URA update procedure:
 - clear the entry for the URA UPDATE CONFIRM message in the table "Rejected transactions" in the variable TRANSACTIONS;
 - release all its radio resources;
 - indicate release (abort) of the established signalling connections (as stored in the variable ESTABLISHED_SIGNALLING_CONNECTIONS) and established radio access bearers (as stored in the variable ESTABLISHED_RABS) to upper layers;
 - clear the variable ESTABLISHED_SIGNALLING_CONNECTIONS;
 - clear the variable ESTABLISHED_RABS;
 - enter idle mode;
 - other actions the UE shall perform when entering idle mode from connected mode are specified in subclause 8.5.2;
 - and the procedure ends.

If the UE after the state transition remains in CELL_FACH state and

- a C-RNTI is stored in the variable C_RNTI;

or

the UE after the state transition moves to another state than the CELL_FACH state;

the UE shall:

- if the CELL UPDATE CONFIRM / URA UPDATE CONFIRM message contained the IE "Ciphering mode info":
 - include and set the IE "Radio bearer uplink ciphering activation time info" in any response message transmitted below to the value of the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO.
- if the CELL UPDATE CONFIRM / URA UPDATE CONFIRM message contained the IE "Integrity protection mode info" with the IE "Integrity protection mode command" set to "Modify":
 - include and set the IE "Uplink integrity protection activation info" in any response message transmitted below to the value of the variable INTEGRITY_PROTECTION_ACTIVATION_INFO;
- in case of a cell update procedure:
 - set the IE "RRC transaction identifier" in any response message transmitted below to the value of "RRC transaction identifier" in the entry for the CELL UPDATE CONFIRM message in the table "Accepted transactions" in the variable TRANSACTIONS; and
 - clear that entry.
- in case of a URA update procedure:
 - set the IE "RRC transaction identifier" in any response message transmitted below to the value of "RRC transaction identifier" in the entry for the URA UPDATE CONFIRM message in the table "Accepted transactions" in the variable TRANSACTIONS; and
 - clear that entry;
- if the variable PDCP_SN_INFO is non-empty:
 - include the IE "RB with PDCP information list" in any response message transmitted below and set it to the value of the variable PDCP_SN_INFO;
- if the received CELL UPDATE CONFIRM or URA UPDATE CONFIRM message included the IE "Downlink counter synchronisation info":
 - calculate the START value according to subclause 8.5.9;
 - include the calculated START values for each CN domain in the IE "START list" in the IE "Uplink counter synchronisation info" in any response message transmitted below;
- transmit a response message as specified in subclause 8.3.1.7;
- if the IE "Integrity protection mode info" was present in the CELL UPDATE CONFIRM or URA UPDATE CONFIRM message:
 - start applying the new integrity protection configuration in the uplink for signalling radio bearer RB2 from and including the transmitted response message;
- if the variable ORDERED_RECONFIGURATION is set to TRUE caused by the received CELL UPDATE CONFIRM message in case of a cell update procedure:
 - set the variable ORDERED_RECONFIGURATION to FALSE;
- clear the variable PDCP_SN_INFO;
- if the CELL UPDATE CONFIRM / URA UPDATE CONFIRM message contained the IE "Ciphering mode info":
 - set the IE "Reconfiguration" in the variable CIPHERING_STATUS to FALSE; and
 - clear the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO;

- if the CELL UPDATE CONFIRM / URA UPDATE CONFIRM message contained the IE "Integrity protection mode info":
 - set the IE "Reconfiguration" in the variable INTEGRITY_PROTECTION_INFO to FALSE; and
 - clear the variable INTEGRITY_PROTECTION_ACTIVATION_INFO;
- in case of a cell update procedure:
 - clear the entry for the CELL UPDATE CONFIRM message in the table "Rejected transactions" in the variable TRANSACTIONS;
- in case of a URA update procedure:
 - clear the entry for the URA UPDATE CONFIRM message in the table "Rejected transactions" in the variable TRANSACTIONS;
- set the variable CELL_UPDATE_STARTED to FALSE;

The procedure ends.

----- omitted -----

8.3.3.3 Reception of UTRAN MOBILITY INFORMATION message by the UE

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

- act on received information elements as specified in subclause 8.6;
- if the IE "UE Timers and constants in connected mode" is present:
 - 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
 - for each updated timer value:
 - start using the new value next time the timer is started;
 - for each updated constant value:
 - start using the new value directly;
- 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
- clear that entry;
- if the UTRAN MOBILITY INFORMATION message contained the IE "Ciphering mode info":
 - include and set the IE "Radio bearer uplink ciphering activation time info" to the value of the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO;
- if the UTRAN MOBILITY INFORMATION message contained the IE "Integrity protection mode info" with the IE "Integrity protection mode command" set to "Modify":
 - include and set the IE "Uplink integrity protection activation info" to the value of the variable INTEGRITY_PROTECTION_ACTIVATION_INFO;
- if the variable PDCP_SN_INFO is non-empty:
 - 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;
- if the received UTRAN MOBILITY INFORMATION message included the IE "Downlink counter synchronisation info":

- calculate the START value according to subclause 8.5.9;
- 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;
- transmit a UTRAN MOBILITY INFORMATION CONFIRM message on the uplink DCCH using AM RLC;
- if the IE "Integrity protection mode info" was present in the UTRAN MOBILITY INFORMATION message:
 - 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;
- if the variable PDCP_SN_INFO is empty; and
 - if the UTRAN MOBILITY INFORMATION message contained the IE "Ciphering mode info":
 - when RLC has confirmed the successful transmission of the UTRAN MOBILITY INFORMATION CONFIRM message, perform the actions below;
 - if the UTRAN MOBILITY INFORMATION message did not contain the IE "Ciphering mode info":
 - when RLC has been requested to transmit the UTRAN MOBILITY INFORMATION CONFIRM message, perform the actions below;
- if the variable PDCP_SN_INFO is non-empty:
 - when RLC has confirmed the successful transmission of the UTRAN MOBILITY INFORMATION CONFIRM message:
 - for each radio bearer in the variable PDCP_SN_INFO:
 - if the IE "RB started" in the variable ESTABLISHED_RABS is set to "started":
 - configure the RLC entity for that radio bearer to "continue";
 - clear the variable PDCP_SN_INFO;
 - if the UTRAN MOBILITY INFORMATION message contained the IE "Ciphering mode info":
 - set the IE "Reconfiguration" in the variable CIPHERING_STATUS to FALSE; and
 - clear the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO;
 - if the UTRAN MOBILITY INFORMATION message contained the IE "Integrity protection mode info":
 - set the IE "Reconfiguration" in the variable INTEGRITY_PROTECTION_INFO to FALSE; and
 - clear the variable INTEGRITY_PROTECTION_ACTIVATION_INFO;

The procedure ends.

----- omitted -----

8.3.4.3 Reception of an ACTIVE SET UPDATE message by the UE

Upon reception of an ACTIVE SET UPDATE message the UE shall act upon all received information elements as specified in 8.6, unless specified otherwise in the following. The UE shall:

- first add the RLs indicated in the IE "Radio Link Addition Information";
- remove the RLs indicated in the IE "Radio Link Removal Information". If the UE active set is full or becomes full, an RL, which is included in the IE "Radio Link Removal Information" for removal, shall be removed before adding RL, which is included in the IE "Radio Link Addition Information" for addition;
- perform the physical layer synchronisation procedure as specified in [29];

- if the ACTIVE SET UPDATE message contained the IE "Ciphering mode info":
 - include and set the IE "Radio bearer uplink ciphering activation time info" to the value of the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO;
- if the ACTIVE SET UPDATE message contained the IE "Integrity protection mode info" with the IE "Integrity protection mode command" set to "Modify":
 - include and set the IE "Uplink integrity protection activation info" to the value of the variable INTEGRITY_PROTECTION_ACTIVATION_INFO;
- if the variable PDCP_SN_INFO is non-empty:
 - include the IE "RB with PDCP information list" in the ACTIVE SET UPDATE COMPLETE message; and
 - set it to the value of the variable PDCP_SN_INFO;
- if the IE "TFCI combining indicator" associated with a radio link to be added is set to TRUE:
 - if a DSCH transport channel is assigned and there is a 'hard' split in the TFCI field:
 - configure Layer 1 to soft-combine TFCI (field 2) of this new link with those links already in the TFCI (field 2) combining set;
- if the received ACTIVE SET UPDATE message included the IE "Downlink counter synchronisation info":
 - calculate the START value according to subclause 8.5.9;
 - include the calculated START values for each CN domain in the IE "START list" in the IE "Uplink counter synchronisation info" in the ACTIVE SET UPDATE COMPLETE message;
- set the IE "RRC transaction identifier" in the ACTIVE SET UPDATE COMPLETE message to the value of "RRC transaction identifier" in the entry for the ACTIVE SET UPDATE message in the table "Accepted transactions" in the variable TRANSACTIONS; and
- clear that entry;
- transmit an ACTIVE SET UPDATE COMPLETE message on the uplink DCCH using AM RLC without waiting for the Physical Layer synchronization;
- if the IE "Integrity protection mode info" was present in the ACTIVE SET UPDATE message:
 - start applying the new integrity protection configuration in the uplink for signalling radio bearer RB2 from and including the transmitted ACTIVE SET UPDATE COMPLETE message;
- if the variable PDCP_SN_INFO is empty:
 - if the ACTIVE SET UPDATE message contained the IE "Ciphering mode info":
 - when RLC has confirmed the successful transmission of the ACTIVE SET UPDATE COMPLETE message:
 - perform the actions below;
 - if the ACTIVE SET UPDATE message did not contain the IE "Ciphering mode info":
 - when RLC has been requested to transmit the ACTIVE SET UPDATE COMPLETE message:
 - perform the actions below;
- if the variable PDCP_SN_INFO is non-empty:
 - when RLC has confirmed the successful transmission of the ACTIVE SET UPDATE COMPLETE message:
 - for each radio bearer in the variable PDCP_SN_INFO:
 - if the IE "RB started" in the variable ESTABLISHED_RABS is set to "started":

- configure the RLC entity for that radio bearer to "continue";
- clear the variable PDCP_SN_INFO;
- if the ACTIVE SET UPDATE message contained the IE "Ciphering mode info":
 - set the IE "Reconfiguration" in the variable CIPHERING_STATUS to FALSE; and
 - clear the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO;
- if the ACTIVE SET UPDATE message contained the IE "Integrity protection mode info":
 - set the IE "Reconfiguration" in the variable INTEGRITY_PROTECTION_INFO to FALSE; and
 - clear the variable INTEGRITY_PROTECTION_ACTIVATION_INFO;
- the procedure ends on the UE side.

----- omitted -----

8.3.6.2 Initiation

The procedure is initiated when a radio access technology other than UTRAN, e.g. GSM, using radio access technology-specific procedures, orders the UE to make a handover to UTRAN.

A HANOVER TO UTRAN COMMAND message is sent to the UE via the radio access technology from which inter-RAT handover is performed.

In case UTRAN decides to use a predefined or default radio configuration that is stored in the UE, it should include the following information in the HANOVER TO UTRAN COMMAND message.

- the IE "New U-RNTI" to be assigned;
- the IE "Predefined configuration identity", to indicate which pre-defined configuration of RB, transport channel and physical channel parameters shall be used; or
- the IE "Default configuration mode" and IE "Default configuration identity", to indicate which default configuration of RB, transport channel and physical channel parameters shall be used;
- PhyCH information elements.

NOTE 1: When using a predefined or default configuration during handover to UTRAN, UTRAN can only assign values of IEs "New U-RNTI" and "scrambling code" that are within the special subranges defined exclusively for this procedure. UTRAN may re-assign other values after completion of the handover procedure.

NOTE 2: When using a predefined or default configuration during handover to UTRAN, fewer IEs are signalled; when using this signalling option some parameters e.g. concerning compressed mode, DSCH, SSdT can not be configured. In this case, the corresponding functionality can not be activated immediately.

In case UTRAN does not use a predefined radio configuration that is stored in the UE, it should include the following information in the HANOVER TO UTRAN COMMAND message.

- the IE "New U-RNTI" to be assigned;
- the complete set of RB, TrCH and PhyCH information elements to be used.

----- omitted -----

8.3.7.5 UE fails to complete requested handover

If the UE does not succeed in establishing the connection to the target radio access technology, it shall:

- revert back to the UTRA configuration;

- establish the UTRA physical channel(s) used at the time for reception of HANDOVER FROM UTRAN COMMAND;
- if the UE does not succeed to establish the UTRA physical channel(s):
 - select a suitable UTRA cell according to [4];
 - perform a cell update procedure according to subclause 8.3.1 with cause "Radio link failure";
 - when the cell update procedure has completed successfully:
 - proceed as below;
- transmit the HANDOVER FROM UTRAN FAILURE message setting the information elements as specified below:
 - include the IE "RRC transaction identifier"; and
 - set it to the value of "RRC transaction identifier" in the entry for the HANDOVER FROM UTRAN COMMAND message in the table "Accepted transactions" in the variable TRANSACTIONS; and
 - clear that entry;
 - set the IE "Inter-RAT [change-handover](#) failure" to "physical channel failure";
- When the HANDOVER FROM UTRAN FAILURE message has been submitted to lower layer for transmission:
 - the procedure ends.

----- omitted -----

8.3.7.8 Unsupported configuration in HANDOVER FROM UTRAN COMMAND message

If the UTRAN instructs the UE to perform a non-supported handover scenario, e.g. multiple RAB or to use a non-supported configuration, the UE shall:

- transmit a HANDOVER FROM UTRAN FAILURE message, setting the information elements as specified below:
 - include the IE "RRC transaction identifier"; and
 - set it to the value of "RRC transaction identifier" in the entry for the HANDOVER FROM UTRAN COMMAND message in the table "Accepted transactions" in the variable TRANSACTIONS; and
 - clear that entry;
 - set the IE "Inter-RAT [change-handover](#) failure" to "configuration unacceptable";
 - when the HANDOVER FROM UTRAN FAILURE message has been submitted to lower layers for transmission:
 - resume normal operation as if the invalid HANDOVER FROM UTRAN COMMAND message has not been received;
 - and the procedure ends.

8.3.7.8a Reception of HANDOVER FROM UTRAN COMMAND message by UE in CELL_FACH

If the UE receives HANDOVER FROM UTRAN COMMAND while in CELL_FACH, the UE shall:

- transmit a HANDOVER FROM UTRAN FAILURE message, setting the information elements as specified below:
 - include the IE "RRC transaction identifier"; and

- set it to the value of "RRC transaction identifier" in the entry for the HANDOVER FROM UTRAN COMMAND message in the table "Accepted transactions" in the variable TRANSACTIONS; and
- clear that entry;
- set the IE "Inter-RAT ~~handoverechange~~ failure" to "protocol error", include IE "Protocol error information"; and
- set the value of IE "Protocol error cause" to "Message not compatible with receiver state";
- when the HANDOVER FROM UTRAN FAILURE message has been submitted to lower layers for transmission:
 - resume normal operation as if the invalid HANDOVER FROM UTRAN COMMAND message has not been received;
 - and the procedure ends.

----- omitted -----

8.3.11.3 Reception of an CELL CHANGE ORDER FROM UTRAN message by the UE

The UE shall be able to receive a CELL CHANGE ORDER FROM UTRAN message and perform a cell change order to another RAT, even if no prior UE measurements have been performed on the target cell.

The UE shall:

- start timer T309; and
- establish the connection to the other radio access technology, as specified within IE "Target cell ~~info~~ description". This IE specifies the target cell identity, in accordance with the specifications for that other RAT. In case the target cell is a GSM/ GPRS cell, IE "Target cell ~~info~~ description" may also include IE "NC mode", which specifies the cell selection mode to be applied in the target cell; and
- if IE "NC mode" is not included in the CELL CHANGE ORDER FROM UTRAN:
 - retrieve it from the target cell as specified in [43];
 - act upon IE "NC mode" as specified in [43].
- if one or more IEs "RAB info" are included in the CELL CHANGE ORDER FROM UTRAN message:
 - connect the upper layer entities corresponding to indicated RABs to the radio resources offered by the target RAT;

NOTE: Requirements concerning the establishment of the radio connection towards the other radio access technology and the signalling procedure are outside the scope of this specification. In case of GSM/GPRS proceed according to the procedure Network control cell reselection procedure as specified in [44].

----- omitted -----

8.3.11.7 Invalid CELL CHANGE ORDER FROM UTRAN message

If the CELL CHANGE ORDER FROM UTRAN message contains a protocol error causing the variable PROTOCOL_ERROR_REJECT to be set to TRUE according to clause 9, the UE shall perform procedure specific error handling as follows. The UE shall:

- set the IE "RRC transaction identifier" in the CELL CHANGE ORDER FROM UTRAN FAILURE message to the value of "RRC transaction identifier" in the entry for the CELL CHANGE ORDER FROM UTRAN message in the table "Rejected transactions" in the variable TRANSACTIONS; and
- clear that entry;
- set the IE "~~Inter-RAT change failure~~ failure-cause" to the cause value "protocol error";

- include the IE "Protocol error information" with contents set to the value of the variable PROTOCOL_ERROR_INFORMATION;
- transmit a CELL CHANGE ORDER FROM UTRAN FAILURE message on the uplink DCCH using AM RLC;
- when the CELL CHANGE ORDER FROM UTRAN FAILURE message has been submitted to lower layers for transmission:
 - resume normal operation as if the invalid CELL CHANGE ORDER FROM UTRAN message has not been received;
 - and the procedure ends.

----- omitted -----

8.4.1.7.1 Intra-frequency measurement

Upon transition from CELL_FACH to CELL_DCH state, the UE shall:

- retrieve each set of measurement control information of measurement type "intra-frequency" stored in the variable MEASUREMENT_IDENTITY;
- if the IE "measurement validity" for a measurement has been assigned the value "CELL_DCH":
 - resume the measurement reporting;
- if no intra-frequency measurements applicable to CELL_DCH state are stored in the variable MEASUREMENT_IDENTITY:
 - continue monitoring the list of neighbouring cells assigned in the IE "intra-frequency cell info list" in System Information Block type 12 (or System Information Block type 11, according to subclause 8.1.1.6.11);
 - if the IE "intra-frequency measurement reporting criteria" was included in System Information Block type 12 (or System Information Block type 11, according to subclause 8.1.1.6.11):
 - send the MEASUREMENT REPORT message when reporting criteria in IE "Reporting information for state CELL_DCH" are fulfilled;

----- omitted -----

8.4.1.9.4 Traffic volume measurement

Upon transition from idle mode to CELL_FACH state, the UE shall:

- store the measurement control information from the IE "Traffic volume measurements system information" received in System Information Block type 12 (or System Information Block type 11, according to subclause 8.1.1.6.11) in the variable MEASUREMENT_IDENTITY;
- begin traffic volume measurement reporting according to the assigned information.

----- omitted -----

8.4.2.2 Initiation

In CELL_DCH state, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH when the reporting criteria stored in variable MEASUREMENT_IDENTITY are met for any ongoing measurements that are being performed in the UE.

In CELL_FACH state, the UE shall transmit a MEASUREMENT REPORT message on the uplink DCCH when the reporting criteria stored in variable MEASUREMENT_IDENTITY are met for any ongoing traffic volume measurement that is being performed in the UE.

In TDD, if the Radio Bearer associated with the MEASUREMENT_IDENTITY fulfilling the reporting criteria for an ongoing traffic volume measurement is mapped on transport channel of type USCH, the UE shall initiate the "PUSCH CAPACITY REQUEST" procedure instead of transmitting a MEASUREMENT REPORT (TDD Only).

In CELL_PCH or URA_PCH state, the UE shall first perform the cell update procedure according to subclause 8.3.1, using the cause "uplink data transmission", in order to transit to CELL_FACH state and then transmit a MEASUREMENT REPORT message on the uplink DCCH when the reporting criteria stored in variable MEASUREMENT_IDENTITY are fulfilled for any ongoing traffic volume measurement which is being performed in the UE.

The reporting criteria are fulfilled if either:

- the first measurement has been completed according to the requirements set in [19] or [20] for a newly initiated measurement with periodic reporting; or
- the time period indicated in the stored IE "Periodical reporting criteria" has elapsed since the last measurement report was submitted to lower layers for a given measurement; or
- an event in stored IE "Measurement reporting criteria" was triggered. Events and triggering of reports for different measurement types are described in detail in clause 14.

For the measurement, which triggered the MEASUREMENT REPORT message, the UE shall:

- set the IE "measurement identity" to the measurement identity, which is associated with that measurement in variable MEASUREMENT_IDENTITY;
- set the IE "measured results" to include measurements according to the IE "reporting quantity" of that measurement stored in variable MEASUREMENT_IDENTITY; and
- if all the reporting quantities are set to "false":
 - not set the IE "measured results";
- set the IE "Measured results" in the IE "Additional measured results" according to the IE "reporting quantity" for all measurements associated with the measurement identities included in the ~~IE "additional measurements"~~ "Additional measurements list" stored in variable MEASUREMENT_IDENTITY of the measurement that triggered the measurement report; and
- if more than one additional measured results are to be included:
 - sort them in ascending order according to their IE "measurement identity" in the MEASUREMENT REPORT message;
- if the MEASUREMENT REPORT message was triggered by an event (i.e. not a periodical report):
 - set the IE "Event results" according to the event that triggered the report.

The UE shall:

- transmit the MEASUREMENT REPORT message on the uplink DCCH using either AM or UM RLC according to the stored IE "measurement reporting mode" associated with the measurement identity that triggered the report.

When the MEASUREMENT REPORT message has been submitted to lower layers for transmission:

- the procedure ends.

----- omitted -----

8.5.7 Open loop power control

For FDD and prior to PRACH or PCPCH transmission the UE shall:

- read the IEs "Primary CPICH ~~DL-TxX~~ power", ~~"UL interference"~~ and "Constant value" in System Information Block type 6 (or System Information Block type 5, if system information block type 6 is not being broadcast) and the IE "UL interference" in System Information Block type 7;

- measure the value for the CPICH_RSCP;
- calculate the power for the first preamble as:

Preamble_Initial_Power = Primary CPICH ~~DL~~-TX power – CPICH_RSCP + UL interference + Constant Value

Where,

Primary CPICH ~~DL~~-TX power shall have the value of IE "Primary CPICH ~~DL~~-Tx power",

UL interference shall have the value of IE "UL interference"; and

Constant Value shall have the value of IE "Constant ~~V~~value".

- as long as the physical layer is configured for PRACH or PCPCH transmission:
 - continuously recalculate the Preamble_Initial_Power when any of the broadcast parameters used in the above formula changes; and
 - resubmit to the physical layer the new calculated Preamble_Initial_Power.

For 3.84 Mcps TDD the UE shall:

- if in the IE "Uplink DPCH Power Control info" the "CHOICE UL OL PC info" has the value "Broadcast UL OL PC info":
 - acquire Reference Power, Constant Values from System Information Block type 6 (or System Information Block type 5, according to subclause 8.1.1.6.5), and I_{BTS} for all active UL timeslots from System Information Block type 14 on the BCH;
- otherwise:
 - acquire Reference Power, Constant Values and I_{BTS} for all active UL timeslots from the IE "Uplink DPCH Power Control info".
- for PUSCH and PRACH power control:
 - acquire Reference Power, Constant Values and I_{BTS} for all active UL timeslots from System Information Block type 6 (or System Information Block type 5, according to subclause 8.1.1.6.5) and System Information Block type 14 on the BCH,

calculate the UL transmit power according to the following formula for the PRACH continuously while the physical channel is active:

$$P_{PRACH} = L_{PCCPCH} + I_{BTS} + RACH \text{ Constant value,}$$

- 3dB shall be added to RACH Constant Value in the above equation for the case where RACH Spreading Factor = 8
- calculate the UL transmit power according to the following formula for the DPCH continuously while the physical channel is active:

$$P_{DPCH} = \alpha L_{PCCPCH} + (1-\alpha)L_0 + I_{BTS} + SIR_{TARGET} + DPCH \text{ Constant value}$$

- calculate the UL transmit power according to the following formula for the PUSCH continuously while the physical channel is active:

$$P_{USCH} = \alpha L_{PCCPCH} + (1-\alpha)L_0 + I_{BTS} + SIR_{TARGET} + USCH \text{ Constant value}$$

Where, for all the above equations for TDD the following apply:

- P_{PRACH} , P_{DPCH} , & P_{USCH} : Transmitter power level in dBm;
- Pathloss values:
 - L_{PCCPCH} : Measurement representing path loss in dB based on beacon channels (the reference transmit power is signalled as the value of the IE "Primary CCPCH Tx Power" on BCH in System Information

Block type 6 (or System Information Block type 5, according to subclause 8.1.1.6.5), or individually signalled in the IE "Uplink DPCH Power Control info").

- L_0 : Long term average of path loss in dB;
- If the midamble is used in the evaluation of L_{PCCPCH} and L_0 , and the Tx diversity scheme used for the P-CCPCH involves the transmission of different midambles from the diversity antennas, the received power of the different midambles from the different antennas shall be combined prior to evaluation of the variables.
- I_{BTS} : Interference signal power level at cell's receiver in dBm. I_{BTS} shall have the value of the IE "UL Timeslot Interference" (IE "UL Timeslot Interference" is broadcast on BCH in System Information Block type 14 or individually signalled to each UE in the IE "Uplink DPCH Power Control info" for each active uplink timeslot).
- α : α is a weighting parameter, which represents the quality of path loss measurements. α may be a function of the time delay between the uplink time slot and the most recent down link PCCPCH time slot. α is calculated at the UE. α shall be smaller or equal to the value of the IE "Alpha". If the IE "Alpha" is not explicitly signalled to the UE α shall be set to 1.
- SIR_{TARGET} : Target SNR in dB. This value is individually signalled to UEs in IE "UL target SIR" in IE "~~UL~~Uplink DPCH Power Control Info" or in IE "PUSCH Power Control Info" respectively.
- RACH Constant value: RACH Constant value shall have the value of the IE "RACH Constant value".
- DPCH Constant value: DPCH Constant value shall have the value of the IE "DPCH Constant value".
- USCH Constant ~~v~~value: USCH Constant value shall have the value of the IE "USCH Constant value".
- Values received by dedicated signalling shall take precedence over broadcast values.
- If IPDLs are applied, the UE may increase UL Tx power by the value given in the IE "Max power increase". This power increase is only allowed in the slots between an idle slot and the next beacon slot.

For 1.28 Mcps TDD the UE shall:

- calculate the UL transmit power according to the following formula for each UpPCH code transmission:

$$P_{UpPCH} = L_{PCCPCH} + PRX_{UpPCHdes} + i * P_{wramp}$$

- calculate the UL transmit power according to the following formula for each PRACH transmission:

$$P_{PRACH} = L_{PCCPCH} + PRX_{PRACHdes} + i * P_{wramp}$$

- calculate the initial UL transmit power according to the following formula for the PUSCH. Once the UE receives TPC bits relating to the PUSCH then it transitions to closed loop power control. If successive PUSCH resource allocations are contiguous then no return is made to open loop power control at the beginning of the succeeding resource allocation.

$$P_{USCH} = SIR_{TARGET} + L_{PCCPCH}$$

- calculate the initial UL transmit power according to the following formula for the DPCH. Once the UE receives TPC bits relating to the uplink DPCH then it transitions to closed loop power control.

$$P_{DPCH} = SIR_{TARGET} + L_{PCCPCH}$$

Where:

- P_{UpPCH} , P_{PRACH} , P_{DPCH} , & P_{USCH} : Transmitter power level in dBm,
- L_{PCCPCH} : Measurement representing path loss in dB (reference transmit power "Primary CCPCH Tx Power" is broadcast on BCH in System Information Block type 5 and System Information Block type 6, or individually signalled to each UE in the IE "Uplink DPCH Power Control info").
- SIR_{TARGET} : Target SIR in dB. This value is individually signalled to UEs in IEs "UL DPCH Power Control Info" and "PUSCH Power Control Info".

- i is the number of transmission attempts on UpPCH
- $PRX_{PRACHdes}$: Desired PRACH RX power at the cell's receiver in dBm signalled to the UE by the network in the FPACH response to the UE's successful SYNC_UL transmission.
- $PRX_{UpPCHdes}$: Desired UpPCH RX power at the cell's receiver in dBm. The value is broadcast in " $PRX_{UpPCHdes}$ " in IE "SYNC_UL info" on BCH and shall be read on System Information Block type 5 and System Information Block type 6. It can also be signalled directly to the UE in a protocol message triggering a hard handover.
- Pwr_{ramp} : The UE shall increase its transmission power by the value of the IE "Power Ramping step" by every UpPCH transmission.

----- omitted -----

8.5.11 FACH measurement occasion calculation

When in CELL_FACH state and when the variable C_RNTI is non-empty the UE in FDD mode shall perform inter-frequency and ~~inter-system~~ inter-RAT measurements during the frame(s) with the SFN value fulfilling the following equation:

$$SFN \text{ div } N = C_RNTI \text{ mod } M_REP + n * M_REP$$

where

- N is the TTI (in number of 10ms frames) of the FACH having the largest TTI on the SCCPCH monitored by UE
- C_RNTI is the C-RNTI value of the UE stored in the variable C_RNTI
- M_REP is the Measurement Occasion cycle length. According to the equation above, a FACH Measurement Occasion of N frames will be repeated every $N * M_REP$ frame, and $M_REP = 2^k$.

where,

- k is the FACH Measurement occasion cycle length coefficient.
The value of the FACH Measurement occasion cycle length coefficient is read in system information in "System Information Block type 11" or "System Information Block type 12" in the IE "FACH measurement occasion info".
- $n = 0,1,2,...$ as long as SFN is below its maximum value

The UE is allowed to measure on other occasions in case the UE moves "out of service" area or in case it can simultaneously perform the ordered measurements.

A UE in TDD mode shall use the frame(s) with the SFN value fulfilling the above equation for neighbour cells measurements.

----- omitted -----

8.6.2.1 URA identity

The UE shall:

- if the IE "URA identity" is included in a received message:
- if the IE "RRC State Indicator" is included and set to "URA_PCH":
 - store this URA identity in the variable URA_IDENTITY;
- after sending a possible message to UTRAN and entering URA_PCH state as specified elsewhere, read system information block type 2 in the selected cell;

- if the stored URA identity in the variable URA_IDENTITY is not included in the list of URA identities in System Information Block type 2 in the selected cell, the list of URA identities in system information block type 2 is empty or if the system information block type 2 can not be found, a confirmation error of URA identity list has occurred:
 - if no URA update procedure is ongoing:
 - initiate a URA update procedure after entering URA_PCH state; see subclause 8.3.1.2;
 - if a URA update procedure is ongoing:
 - take actions as specified in subclause 8.3.1.10;
- if the IE "URA identity" is not included in a received message:
 - if the IE "RRC State Indicator" is included and set to " URA_PCH":
 - after sending a possible message to UTRAN and entering URA_PCH state as specified elsewhere, read System Information Block type 2 in the selected cell;
 - if System Information Block type 2 in the selected cell contains a single URA identity:
 - store this URA identity in the variable URA_IDENTITY;
 - if System Information Block type 2 of the selected cell contains more than one URA identity, the list of URA identities in system information block type 2 is empty or if the system information block type 2 can not be found, a confirmation error of URA identity list has occurred:
 - if no URA update procedure is ongoing:
 - initiate a URA update procedure after entering URA_PCH state, see subclause 8.3.1.2;
 - if a URA update procedure is ongoing:
 - take actions as specified in subclause 8.3.1.10.

----- omitted -----

8.6.3.4 Cipherng mode info

The IE "Cipherng mode info" defines the new cipherng configuration. At any given time, the UE needs to store at most two different cipherng configurations at any given time for all signalling radio bearers and radio bearers, the old and latest cipherng configurations, per CN domain. If the IE "Cipherng mode info" is present and if the IE "Reconfiguration" in the variable CIPHERING_STATUS is set to FALSE, the UE shall check the IE "Cipherng mode command" as part of the IE "Cipherng mode info", and perform the following. The UE shall:

- if the IE "Status" in the variable CIPHERING_STATUS of the CN domain
 - as indicated in the variable LATEST_CONFIGURED_CN_DOMAIN, if the variable LATEST_CONFIGURED_CN_DOMAIN has been initialised; or
 - as indicated in the IE "CN domain identity", if the variable LATEST_CONFIGURED_CN_DOMAIN is not initialised
 has the value "Not Started", and if the IE "Cipherng mode command" has the value "stop":
 - ignore this attempt to change the cipherng configuration; and
 - set the variable INVALID_CONFIGURATION to TRUE;
- else:
 - set the IE "Reconfiguration" in the variable CIPHERING_STATUS to TRUE;
 - if IE "Cipherng mode command" has the value "start/restart":
 -

- start or restart ciphering in lower layers for all established radio bearers in the variable ESTABLISHED_RABS, using the ciphering algorithm (UEA [40]) indicated by the IE "Ciphering algorithm" as part of the new ciphering configuration. For each radio bearer, the value of the IE "RB identity" in the variable ESTABLISHED_RABS minus one shall be used as the value of BEARER in the ciphering algorithm. The new ciphering configuration shall be applied as specified below;
- set the IE "Status" in the variable CIPHERING_STATUS of the CN domain
 - as indicated in the variable LATEST_CONFIGURED_CN_DOMAIN, if the variable LATEST_CONFIGURED_CN_DOMAIN has been initialised; or
 - as indicated in the IE "CN domain identity", if the variable LATEST_CONFIGURED_CN_DOMAIN is not initialised
 to "Started";
- if the IE "Ciphering mode command" has the value "stop", the UE shall:
 - stop ciphering and stop incrementing COUNT-C values for all UL and DL signalling radio bearers and also for UL and DL transparent RLC mode radio bearers, only at the new ciphering configuration that shall be applied as specified below;
 - set the IE "Status" in the variable CIPHERING_STATUS of the CN domain
 - as indicated in the variable LATEST_CONFIGURED_CN_DOMAIN, if the variable LATEST_CONFIGURED_CN_DOMAIN has been initialised; or
 - as indicated in the IE "CN domain identity", if the variable LATEST_CONFIGURED_CN_DOMAIN is not initialised
 to "Not started";
- in case the IE "Ciphering mode command" has the value "start/restart" or "stop", the new ciphering configuration shall be applied as follows:
 - store the (oldest currently used) ciphering configuration until activation times have elapsed for the new ciphering configuration to be applied on all signalling radio bearers and radio bearers;
 - if there are pending activation times set for ciphering by a previous procedure changing the ciphering configuration:
 - apply the ciphering configuration at this pending activation time as indicated in this procedure;
 - if the IE "Ciphering activation time for DPCH" is present in the IE "Ciphering mode info":
 - apply the new configuration at that time for radio bearers using RLC-TM. If the IE "Ciphering mode info" is present in a message reconfiguring RB, transport channel or physical channel, the indicated time in IE "~~Activation~~Ciphering activation time for DPCH" corresponds to a CFN after that reconfiguration;
 - if the IE "Radio bearer downlink ciphering activation time info" is present in the IE "Ciphering mode info":
 - apply the following procedure for each radio bearer using RLC-AM and RLC-UM indicated by the IE "RB identity":
 - suspend data transmission on the radio bearer;
 - select an "RLC send sequence number" at which (activation) time the new ciphering configuration shall be applied in uplink for that radio bearer according to the following:
 - for each radio bearer and signalling radio bearer that has no pending ciphering activation time as set by a previous procedure changing the security configuration:
 - set a suitable value that would ensure a minimised delay in the change to the latest security configuration;

- for each radio bearer and signalling radio bearer that has a pending ciphering activation time as set by a previous procedure changing the security configuration:
 - set the same value as the pending ciphering activation time;
- consider this activation time to be elapsed when the selected activation time (as above) is equal to the "RLC send sequence number";
- store the selected "RLC send sequence number" for that radio bearer in the entry for the radio bearer in the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO;
- when the data transmission of that radio bearer is resumed:
 - switch to the new ciphering configuration according to the following:
 - use the old ciphering configuration for the transmitted and received RLC PDUs with RLC sequence numbers smaller than the corresponding RLC sequence numbers indicated in the IE "Radio bearer uplink ciphering activation time info" sent to UTRAN and in the received IE "Radio bearer downlink ciphering activation time info" received from UTRAN, respectively;
 - use the new ciphering configuration for the transmitted and received RLC PDUs with RLC sequence numbers greater than or equal to the corresponding RLC sequence numbers indicated in the IE "Radio bearer uplink ciphering activation time info" sent to UTRAN and in the received IE "Radio bearer downlink ciphering activation time info" received from UTRAN, respectively;
 - for a radio bearer using RLC-AM, when the RLC sequence number indicated in the IE "Radio bearer downlink ciphering activation time info" falls below the RLC receiving window and the RLC sequence number indicated in the IE "Radio bearer uplink ciphering activation time info" falls below the RLC transmission window, the UE may release the old ciphering configuration for that radio bearer;
 - if an RLC reset or re-establishment occurs before the activation time for the new ciphering configuration has been reached, ignore the activation time and apply the new ciphering configuration immediately after the RLC reset or RLC re-establishment.

If the IE "Ciphering mode info" is present and if the IE "Reconfiguration" in the variable CIPHERING_STATUS is set to TRUE, the UE shall:

- ignore this second attempt to change the ciphering configuration; and
- set the variable INCOMPATIBLE_SECURITY_RECONFIGURATION to TRUE.

If the IE "Ciphering mode info" is not present, the UE shall not change the ciphering configuration.

8.6.3.5 Integrity protection mode info

The IE "Integrity protection mode info" defines the new integrity protection configuration. At any given time, the UE needs to store at most two different integrity protection configurations for all signalling radio bearers, the old and newest integrity protection configurations, per CN domain. If the IE "Integrity protection mode info" is present and if the IE "Reconfiguration" in the variable **INTEGRITY_PROTECTION_STATUS INTEGRITY_PROTECTION_INFO** is set to FALSE, the UE shall check the IE "Integrity protection mode command" as part of the IE "Integrity protection mode info", and perform the following. The UE shall:

- if the IE "Integrity protection mode command" has the value "Modify" and the IE "Status" in the variable INTEGRITY_PROTECTION_INFO has the value "Not Started":
 - ignore this attempt to change the integrity protection configuration; and
 - set the variable INVALID_CONFIGURATION to TRUE;
- else:
 - set the IE "Reconfiguration" in the variable **INTEGRITY_PROTECTION_STATUS INTEGRITY_PROTECTION_INFO** to TRUE;

- if IE "Integrity protection mode command" has the value "start" and the IE "Status" in the variable INTEGRITY_PROTECTION_INFO has the value "Not started":
 - if the IE "Historical status" in the variable INTEGRITY_PROTECTION_INFO has the value "Never been active":
 - initialise the information for all signalling radio bearers in the variable INTEGRITY_PROTECTION_INFO according to the following:
 - initialise the 20 MSB of the "Uplink RRC HFN" and "Downlink RRC HFN" of COUNT-I for this signalling radio bearer with the START value included in the most recently transmitted IE "START list" for the CN domain:
 - as indicated in the variable LATEST_CONFIGURED_CN_DOMAIN, if the variable LATEST_CONFIGURED_CN_DOMAIN has been initialised; or
 - as indicated in the IE "CN domain identity", if the variable LATEST_CONFIGURED_CN_DOMAIN has not been initialised;
 - set the remaining LSB of the "Uplink RRC HFN" and "Downlink RRC HFN" to zero;
 - set the IE "Uplink RRC Message sequence number" to zero;
 - do not include the IE "Downlink RRC Message sequence number";
 - set the IE "Historical status" in the variable INTEGRITY_PROTECTION_INFO to the value "Has been active";
 - set the IE "Status" in the variable INTEGRITY_PROTECTION_INFO to the value "Started";
 - perform integrity protection on the received message as described in subclause 8.5.10.1;
 - use the algorithm (UIA [40]) indicated by the IE "Integrity protection algorithm" contained in the IE "Integrity protection mode info";
 - use the IE "Integrity protection initialisation number", contained in the IE "Integrity protection mode info" as the value of FRESH [40];
- if IE "Integrity protection mode command" has the value "start" and the IE "Status" in the variable INTEGRITY_PROTECTION_INFO has the value "Started":

NOTE: This case is used in SRNS relocation

- perform integrity protection on the received message as described in subclause 8.5.10.1;
 - use the algorithm (UIA [40]) indicated by the IE "Integrity protection algorithm" contained in the IE "Integrity protection mode info";
 - use the IE "Integrity protection initialisation number", contained in the IE "Integrity protection mode info" as the value of FRESH [40];
- if IE "Integrity protection mode command" has the value "modify" and the IE "Status" in the variable INTEGRITY_PROTECTION_INFO has the value "Started":
 - store the (oldest currently used) integrity protection configuration until activation times have elapsed for the new integrity protection configuration to be applied on all signalling radio bearers;
 - if there are pending activation times set for integrity protection by a previous procedure changing the integrity protection configuration:
 - apply the integrity protection configuration at this pending activation time as indicated in this procedure;
 - start applying the new integrity protection configuration in the downlink at the RRC sequence number, for each signalling radio bearer n, indicated by the entry for signalling radio bearer n in the "RRC message sequence number list" in the IE "Downlink integrity protection activation info", included in the IE "Integrity protection mode info";

- perform integrity protection on the received message as described in subclause 8.5.10.1;
- if present, use the algorithm indicated by the IE "Integrity protection algorithm" (UIA [40]);
- set the content of the variable INTEGRITY_PROTECTION_ACTIVATION_INFO according to the following:
 - for each established signalling radio bearer, stored in the variable ESTABLISHED_RABS:
 - select a value of the RRC sequence number at which (activation) time the new integrity protection configuration shall be applied in uplink for that signalling radio bearer according to the following:
 - for each signalling radio bearer that has no pending activation time as set for integrity protection by a previous procedure changing the integrity protection configuration:
 - set a suitable value that would ensure a minimised delay in the change to the latest integrity protection configuration;
 - for signalling radio bearer that has a pending activation time as set for integrity protection by a previous procedure changing the integrity protection configuration:
 - set the same value as the pending activation time for integrity protection;
 - consider this activation time to be elapsed when the selected activation time (as above) is equal to the next RRC sequence number to be used;
 - for signalling radio bearer RB0:
 - set the value of the included RRC sequence number to greater than or equal to the current value of the RRC sequence number for signalling radio bearer RB0 in the variable INTEGRITY_PROTECTION_INFO, plus the value of the constant N302 plus one;
 - let RB_m be the signalling radio bearer on which the message containing the IE "integrity protection mode info" was received;
 - start applying the new integrity protection configuration in the uplink at the RRC sequence number, for each RB_n, except for signalling radio bearer RB_m, indicated by the entry for signalling radio bearer n in the "RRC message sequence number list" in the IE "Uplink integrity protection activation info", included in the variable INTEGRITY_PROTECTION_ACTIVATION_INFO;
 - start applying the new integrity protection configuration in the uplink at the RRC sequence number for signalling radio bearer RB_m, as specified for the procedure initiating the integrity protection reconfiguration;

If the IE "Integrity protection mode info" is present and if the IE "Reconfiguration" in the variable INTEGRITY_PROTECTION_STATUS INTEGRITY_PROTECTION_INFO is set to TRUE, the UE shall:

- ignore this second attempt to change the integrity protection configuration; and
- set the variable INCOMPATIBLE_SECURITY_RECONFIGURATION to TRUE.

If the IE "Integrity protection mode info" is not present, the UE shall not change the integrity protection configuration.

----- omitted -----

8.6.4.1 Signalling RB information to setup list

If the IE "Signalling RB information to setup list" is included the UE shall:

- use the same START value to initialise the COUNT-C and COUNT-I variables for all the signalling radio bearers in the list;
- for each occurrence of the IE "Signalling RB information to setup":
 - use the value of the IE "RB identity" as the identity of the signalling radio bearer to setup;

- if the variable LATEST_CONFIGURED_CN_DOMAIN has been initialised and the value "STATUS" of the variable "CIPHERING_STATUS" of the CN domain stored in this variable is "Started":
 - if the IE "Uplink RLC mode" or the IE "Downlink RLC mode" either in the IE "RLC info" or referenced by the RB identity in the IE "Same as RB" is set to "AM RLC" or "UM RLC":
 - initialise the 20 MSB of the hyper frame number component of COUNT-C for this signalling radio bearer with the START value for the CN domain as indicated in the variable "LATEST_CONFIGURED_CN_DOMAIN";
 - set the remaining LSB of the hyper frame number component of COUNT-C for this signalling radio bearer to zero;
 - if the IE "Uplink RLC mode" and the IE "Downlink RLC mode" either in the IE "RLC info" or referenced by the RB identity in the IE "Same as RB" is set to "TM RLC":
 - if no other transparent mode RLC radio bearers or signalling radio bearers in the variable "ESTABLISHED_RABS" exist:
 - initialise the 20 MSB of the hyper frame number component of COUNT-C for this signalling radio bearer with the START value for the CN domain as indicated in the variable LATEST_CONFIGURED_CN_DOMAIN;
 - set the remaining LSB of the hyper frame number component of COUNT-C for this signalling radio bearer to zero;
 - if at least one transparent mode RLC radio bearers or signalling radio bearers in the variable "ESTABLISHED_RABS" exist:
 - use, for this signalling radio bearer, the COUNT-C for transparent mode radio bearers and signalling radio bearers that is common (refer to subclause 8.5.8), for the CN domain as indicated in the variable LATEST_CONFIGURED_CN_DOMAIN;
- if the variable LATEST_CONFIGURED_CN_DOMAIN has been initialised and the value "Status" of the variable "INTEGRITY_PROTECTION_INFO" of the CN domain stored in this variable is "Started":
 - initialise the 20 MSB of the hyper frame number component of COUNT-I for this signalling radio bearer with the START value for the CN domain as indicated in the variable LATEST_CONFIGURED_CN_DOMAIN;
 - set the remaining LSB of the hyper frame number component of COUNT-I for this signalling radio bearer to zero;
 - perform the actions for the IE "RLC info" as specified in subclause 8.6.4.9, applied for that signalling radio bearer;
 - perform the actions for the IE "RB mapping info" as specified in subclause 8.6.4.8, applied for that signalling radio bearer;
 - apply a default value of the IE "RB identity" equal to 1 for the first IE "Signalling RB information to setup"; and
 - increase the default value by 1 for each occurrence.

----- omitted -----

8.6.4.3 RB information to setup

If the IE "RB information to setup" is included, the UE shall apply the following actions on the radio bearer identified with the value of the IE "RB identity". The UE shall:

- use the same START value to initialise the hyper frame number components of COUNT-C and COUNT-I variables for all the new UL and DL radio bearers to setup;
- perform the actions for the IE "PDCP info", if present, according to subclause 8.6.4.10, applied for the radio bearer;

- perform the actions for the IE "RLC info", according to subclause 8.6.4.9, applied for the radio bearer;
- perform the actions for the IE "RB mapping info", according to subclause 8.6.4.8, applied for the radio bearer;
- if the IE "Downlink RLC mode" either in the IE "RLC info" or referenced by the RB identity in the IE "Same as RB" is set to "TM RLC":
 - configure delivery of erroneous SDUs in lower layers according to indication from upper layer [5].
- if the IE "Uplink RLC mode" or the IE "Downlink RLC mode" either in the IE "RLC info" or referenced by the RB identity in the IE "Same as RB" is set to "AM RLC" or "UM RLC":
 - initialise the 20 MSB of the hyper frame number component of COUNT-C for this radio bearer with the START value for the CN domain as indicated in the IE "CN domain identity" in the IE "RAB info" part of the IE "RAB information for setup";
 - set the remaining LSB of the hyper frame number component of COUNT-C for this radio bearer to zero;
- if the IE "Uplink RLC mode" and the IE "Downlink RLC mode" either in the IE "RLC info" or referenced by the RB identity in the IE "Same as RB" is set to "TM RLC":
 - if no other transparent mode RLC radio bearers and signalling radio bearers exist in the variable ESTABLISHED_RABS:
 - initialise the 20 MSB of the hyper frame number component of COUNT-C for this radio bearer with the START value for the CN domain as indicated in the IE "CN domain identity" in the IE "RAB info" part of the IE "RAB information for setup";
 - set the remaining LSB of the hyper frame number component of COUNT-C for this radio bearer to zero;
 - if at least one transparent mode RLC radio bearers or signalling radio bearers exist in the variable ESTABLISHED_RABS:
 - set the MAC-d HFN component of the COUNT-C for this radio bearer with the MAC-d HFN that is common (refer to subclause 8.5.8) for the CN domain as indicated in the IE "CN domain identity" in the IE "RAB info" part of the IE "RAB information for setup";
- if the IE "Status" in the variable CIPHERING_STATUS of the CN domain as indicated in the IE "CN domain identity" in the IE "RAB info" in the variable ESTABLISHED_RABS is set to "Started":
 - start to perform ciphering on the radio bearer in lower layers, using the value of the IE "RB identity" minus one as the value of BEARER in the ciphering algorithm.

NOTE: UTRAN should not use the IE "RB information to setup" to setup radio bearers with RB identity in the range 1-4.

----- omitted -----

8.6.4.8 RB mapping info

If the IE "RB mapping info" is included, the UE shall:

- for each multiplexing option of the RB:
 - if a transport channel that would not exist as a result of the message (i.e. removed in the same message in IE "Deleted DL TrCH information" and IE "Deleted UL TrCH information") is referred to:
 - set the variable INVALID_CONFIGURATION to TRUE;
 - if a multiplexing option that maps a logical channel corresponding to a TM-RLC entity onto RACH, CPCH, FACH or DSCH is included:
 - set the variable INVALID_CONFIGURATION to TRUE;

- if the multiplexing option realises the radio bearer on the uplink (resp. on the downlink) using two logical channels with different values of the IE "Uplink transport channel type" (resp. of the IE "Downlink transport channel type"):
 - set the variable INVALID_CONFIGURATION to TRUE;
- if that RB is using TM and the IE "Segmentation indication" is set to TRUE and, based on the multiplexing configuration resulting from this message, the logical channel corresponding to it is mapped onto the same transport channel as another logical channel:
 - set the variable INVALID_CONFIGURATION to TRUE;
- if the transport channel considered in that multiplexing option is different from RACH and if that RB is using AM and the set of RLC sizes applicable to the logical channel transferring data PDUs has more than one element:
 - set the variable INVALID_CONFIGURATION to TRUE;
- if that RB is using UM or TM and the multiplexing option realises it using two logical channels:
 - set the variable INVALID_CONFIGURATION to TRUE;
- for each logical channel in that multiplexing option:
 - if the value of the IE "RLC size list" is set to "Explicit list":
 - if a "Transport format set" for the transport channel this logical channel is mapped on in this multiplexing option is included in the same message, and the value (index) of any IE "RLC size index" in the ~~IE "RLC size index list"~~ IE "Explicit list" does not correspond to an "RLC size" in the IE transport format set of that transport channel given in the message; or
 - if the transport channel this logical channel is mapped on in this multiplexing option is different from RACH, and if a "Transport format set" for that transport channel is not included in the same message, and the value (index) of any IE "RLC size index" in the ~~IE "RLC size index list"~~ IE "Explicit list" does not correspond to an "RLC size" in the stored transport format set of that transport channel; or
 - if a "Transport format set" for the transport channel this logical channel is mapped on in this multiplexing option is included in the same message, and the value of any IE "Logical channel list" in the transport format set is not set to "Configured"; or
 - if a "Transport format set" for the transport channel this logical channel is mapped on in this multiplexing option is not included in the same message, and the value of any IE "Logical channel list" in the stored transport format set of that transport channel is not set to "Configured":
 - set the variable INVALID_CONFIGURATION to TRUE;
 - if the value of the IE "RLC size list" is set to "All":
 - if a "Transport format set" for the transport channel this logical channel is mapped on in this multiplexing option is included in the same message, and the value of any IE "Logical channel list" in the transport format set is not set to "Configured"; or
 - if a "Transport format set" for the transport channel this logical channel is mapped on in this multiplexing option is not included in the same message, and the value of any IE "Logical channel list" in the stored transport format set of that transport channel is not set to "Configured":
 - set the variable INVALID_CONFIGURATION to TRUE;
 - if the value of the IE "RLC size list" is set to "Configured":
 - if a "Transport format set" for the transport channel this logical channel is mapped on in this multiplexing option is included in the same message, and for none of the RLC sizes defined for that transport channel in the "Transport format set", the "Logical Channel List" is set to "All" or given as an "Explicit List" which contains this logical channel; or

- if a "Transport format set" for the transport channel this logical channel is mapped on in this multiplexing option is not included in the same message, and for none of the RLC sizes defined in the transport format set stored for that transport channel, the "Logical Channel List" is set to "All" or given as an "Explicit List" which contains this logical channel:
 - set the variable INVALID_CONFIGURATION to TRUE;
- if, as a result of the message this IE is included in, several radio bearers can be mapped onto the same transport channel, and the IE "Logical Channel Identity" was not included in the RB mapping info of any of those radio bearers for a multiplexing option on that transport channel or the same "Logical Channel Identity" was used more than once in the RB mapping info of those radio bearers for the multiplexing options on that transport channel:
 - set the variable INVALID_CONFIGURATION to TRUE;
- delete all previously stored multiplexing options for that radio bearer;
- store each new multiplexing option for that radio bearer;
- select and configure the multiplexing options applicable for the transport channels to be used;
- if the IE "Uplink transport channel type" is set to the value "RACH":
 - in FDD:
 - refer the IE "RLC size index" to the RACH Transport Format Set of the first PRACH received in the IE "PRACH system information list" received in SIB5 or SIB6;
 - in TDD:
 - use the first Transport Format of the PRACH of the IE "PRACH system information list" at the position equal to the value in the IE "RLC size index";
- determine the sets of RLC sizes that apply to the logical channels used by that RB, based on the IEs "RLC size list" and/or the IEs "Logical Channel List" included in the applicable "Transport format set" (either the ones received in the same message or the ones stored if none were received); and
- in case the selected multiplexing option is a multiplexing option on RACH:
 - ignore the RLC size indexes that do not correspond to any RLC size within the Transport Format Set stored for RACH;
- if RACH is the transport channel to be used on the uplink, if that RB has a multiplexing option on RACH and if it is using AM:
 - apply the largest size amongst the ones derived according to the previous bullet for the RLC size (or RLC sizes in case the RB is realised using two logical channels) for the corresponding RLC entity;
- if that RB is using AM and the RLC size applicable to the logical channel transporting data PDUs is different from the one derived from the previously stored configuration:
 - re-establish the corresponding RLC entity;
 - configure the corresponding RLC entity with the new RLC size;
- if the IE "Status" in the variable CIPHERING_STATUS of the CN domain as indicated in the IE "CN domain identity" in the IE "RAB info" in the variable ESTABLISHED_RABS is set to "Started":
 - if this IE was included in system information:
 - set the HFN values for the corresponding RLC entity equal to the value of the IE "START" for the CN domain stored in the variable LATEST_CONFIGURED_CN_DOMAIN that will be included in the CELL UPDATE message that will be sent before the next transmission;
 - if this IE was included in CELL UPDATE CONFIRM:

- set the HFN values for the corresponding RLC entity equal to the value of the IE "START" included in the latest transmitted CELL UPDATE message for the CN domain stored in the variable LATEST_CONFIGURED_CN_DOMAIN;
- if this IE was included in a reconfiguration message:
 - set the HFN values for the corresponding RLC entity equal to the value of the IE "START" that will be included in the reconfiguration complete message for the CN domain stored in the variable LATEST_CONFIGURED_CN_DOMAIN;
- if that RB is using UM:
 - indicate the largest applicable RLC size to the corresponding RLC entity;
- configure MAC multiplexing according to the selected multiplexing option (MAC multiplexing shall only be configured for a logical channel if the transport channel it is mapped on according to the selected multiplexing option is the same as the transport channel another logical channel is mapped on according to the multiplexing option selected for it);
- configure the MAC with the logical channel priorities according to selected multiplexing option;
- configure the MAC with the set of applicable RLC Sizes for each of the logical channels used for that RB;
- if there is no multiplexing option applicable for the transport channels to be used:
 - set the variable INVALID_CONFIGURATION to TRUE;
- if there is more than one multiplexing option applicable for the transport channels to be used:
 - set the variable INVALID_CONFIGURATION to TRUE.

In case IE "RB mapping info" includes IE "Downlink RLC logical channel info" but IE "Number of downlink RLC logical channels" is absent, the parameter values are exactly the same as for the corresponding UL logical channels. In case two multiplexing options are specified for the UL, the first options shall be used as default for the DL. As regards the IE "Channel type", the following rule should be applied to derive the DL channel type from the UL channel included in the IE:

Channel used in UL	DL channel type implied by "same as"
DCH	DCH
RACH	FACH
CPCH	FACH
USCH	DSCH

----- omitted -----

8.6.6.9 PDSCH with SHO DCH Info (FDD only)

If the IE "PDSCH with SHO DCH Info" is included, the UE shall:

- configure itself to receive the PDSCH from the specified radio link within the active set identified by the IE "DSCH radio link identifier";
- if the TFCI has a 'hard' split:
 - if the IE "TFCI(field2) combining set" is included:
 - configure the Layer 1 to combine soft only the DPCCCH TFCI(field 2) of the radio links within the active set which are identified by the IE "Radio link identifier" in the IE "TFCI(field2) Combining set";
 - if the IE "TFCI(field2) combining set" is not included:
 - configure the L1 to combine soft the DPCCCH TFCI(field 2) of all radio links within the active set.

----- omitted -----

8.6.6.25 SS DT Information

If the IE "SS DT Information" is included the UE shall:

- configure the size of the S-field in the FBI field on the uplink DPCCH to the value indicated in the IE "S-field";
- use the length of the temporary cell ID code for SS DT indicated in the IE "Code Word LengthSet".

----- omitted -----

8.6.6.27 Downlink information common for all radio links

If the IE "Downlink information common for all radio links " is included the UE shall:

- if the IE "Downlink DPCH info common for all radio linksRL" is included:
 - perform actions as specified in subclause 8.6.6.28;
- if the IE choice "mode" is set to 'FDD':
 - perform actions for the IE "DPCH compressed mode info" as specified in subclause 8.6.6.15;
 - perform actions for the IE "Tx Diversity mode" as specified in subclause 8.6.6.24;
- if the IE "SS DT information" is included:
 - perform actions as specified in subclause 8.6.6.25;
- if the IE "Default DPCH Offset value" is included:
 - perform actions as specified in the subclause 8.6.6.21.

8.6.6.28 Downlink DPCH info common for all radio links

If the IE "Downlink DPCH info common for all radio linksRL" is included the UE shall:

- perform actions for the IE "Timing indicator indication" as specified in subclause 8.5.15.2;
- ignore the value received in IE "CFN-targetSFN frame offset";
- if the IE "Downlink DPCH power control information" is included:
 - perform actions for the IE "DPC Mode" according to [29];
- if the IE choice "mode" is set to 'FDD':
 - if the IE "Downlink rate matching restriction information" is included:
 - perform downlink rate matching based on the TFCs composed of 'all the TFIs of the non-restricted Transport channel' and 'allowed TFIs in the restricted Transport channel' within given TFCS;
 - if the IE "Downlink rate matching restriction information" is not included:
 - cancel all the transport format restrictions if any and initiate the downlink rate matching based on all the TFCs in given TFCS;
 - perform actions for the IE "spreading factor";
 - perform actions for the IE "Fixed or Flexible position";
 - perform actions for the IE "TFCI existence";
- if the IE choice "SF" is set to 256:
 - store the value of the IE "Number of bits for pilot bits";

- if the IE choice "SF" set to 128:
 - store the value of the IE "Number of bits for pilot bits";
- if the IE choice "mode" is set to 'TDD':
 - perform actions for the IE "Common timeslot info".

If the IE "Downlink DPCH info common for all ~~radio links-RL~~" is included in a message used to perform a Timing re-initialised hard handover, and ciphering is active for any radio bearer using RLC-TM, the UE shall, after having activated the dedicated physical channels indicated by that IE:

- increment HFN for RLC-TM by '1'.

----- omitted -----

8.6.7.6 Inter-RAT reporting quantity

If the IE "Inter-RAT reporting quantity" is received by the UE, the UE shall:

- store the content of the IE to the variable MEASUREMENT_IDENTITY.

If the IE "Inter-RAT measurement quantity" is received and CHOICE system is GSM, the UE shall check each quantity in the GSM choice. The UE shall include measured results in MEASUREMENT REPORT as specified in the IE "Inter-RAT reporting quantity" with the following restrictions:

- if the UE has not confirmed the BSIC of the measured cell:
 - if no compressed mode pattern sequence specified with measurement purpose "Initial BSIC identification" is active, the UE is not required to include the "inter-RAT cell id" nor "Observed time difference to GSM cell" in the IE "Inter-RAT measured results list", when a MEASUREMENT REPORT is triggered.
- if the UE has confirmed the BSIC of the measured cell, then:
 - if no compressed mode pattern sequence specified with measurement purpose "Initial BSIC identification" nor "BSIC re-confirmation" is active, the UE is not required to include the "inter-RAT cell id" nor "Observed time difference to GSM cell" in the IE "Inter-RAT measured results", when a MEASUREMENT REPORT is triggered. If no compressed mode pattern sequence with measurement purpose "GSM carrier RSSI measurements" is active, the UE may include "inter-RAT cell id" or "Observed time difference to GSM cell" in MEASUREMENT REPORT without "GSM carrier RSSI" even if it is defined in the IE "Inter-RAT reporting quantity".
- if the IE "UTRAN estimated-~~quantity quality~~" is set to "TRUE":
 - ignore that IE;
- if IE "Observed time difference to GSM cell" is set to "TRUE":
 - include optional IE "Observed time difference to GSM cell" with the value set to the time difference to that GSM cell for the GSM cells that have a BSIC that is "verified", and that match any of the BCCH ARFCN and BSIC combinations in the list of inter-RAT cells that the UE has received in IE "Inter-RAT cell info list". Observed time difference to GSM cells with "non-verified" BSIC shall not be included;
- if IE "GSM Carrier RSSI" is set to "TRUE":
 - include optional IE "GSM Carrier RSSI" with a value set to the measured RXLEV to that GSM cell in IE "Inter-RAT measured results list". If no compressed mode pattern sequence specified with measurement purpose "GSM carrier RSSI measurements" is active, the UE is not required to include the "GSM carrier RSSI" in the IE "Inter-RAT measured results list", when a MEASUREMENT REPORT is triggered;
- if the BSIC of reported GSM cell is "verified":
 - set the CHOICE BSIC to "Verified BSIC" and IE "inter-RAT cell id" to the value that GSM cell had in the IE "Inter-RAT cell info list";
- if the BSIC of reported GSM cell is "non-verified":

- set the CHOICE BSIC to "Non verified BSIC" and the IE "BCCH ARFCN" to the value of that GSM cells ARFCN;

The requirements for a cell to be considered "verified" or "non-verified" can be found in [19].

----- omitted -----

8.6.7.12 FACH measurement occasion info

IE "FACH measurement occasion info" is used to control UE measurement activities in inter-frequency and inter-RAT cells in CELL_FACH state.

If IE "FACH measurement occasion info" is received, UE shall, when in CELL_FACH state:

- if IE "FACH Measurement occasion cycle length coefficient" is included:
 - if, according to its measurement capabilities, UE is not able to perform some of the indicated measurements in this IE simultaneously as receiving the SCCPCH of serving cell:
 - perform those measurements during FACH measurement occasions, see subclause 8.5.11;
 - if, according to its measurement capabilities, UE is able to perform some of the indicated measurements in this IE simultaneously as receiving the SCCPCH of serving cell:
 - UE may perform measurements also on other occasions;
 - if, according to its measurement capabilities, UE is able to perform the measurements and indicated in this IE simultaneously as receiving the SCCPCH of serving cell:
 - perform the measurements simultaneously as receiving the SCCPCH of serving cell;
- if IE "FACH Measurement occasion cycle length coefficient" is not included:
 - perform those indicated measurements indicated in this IE that UE, according to its measurement capabilities, is able to perform simultaneously as receiving the SCCPCH of serving cell;
- if IE "Inter-frequency FDD measurement indicator" is set to TRUE:
 - perform measurements and evaluate cell re-selection criteria according to [4] on inter-frequency FDD cells listed in IE "Measurement control system information" in "System Information Block type 11" or "System Information Block type 12";
- if IE "Inter-frequency FDD measurement indicator" is set to FALSE:
 - neither perform measurements nor evaluate cell re-selection criteria on inter-frequency FDD cells;
- if IE "Inter-frequency TDD measurement indicator" is set to TRUE:
 - perform measurements and evaluate cell re-selection criteria according to [4] on inter-frequency TDD cells listed in IE "Measurement control system information" in "System Information Block type 11" or "System Information Block type 12";
- if IE "Inter-frequency TDD measurement indicator" is set to FALSE:
 - neither perform measurements nor evaluate cell re-selection criteria on inter-frequency TDD cells;
- if IE "Inter-RAT measurement indicators" is included:
 - perform measurements and evaluate cell re-selection criteria according to [4] on those cells of listed Inter-RAT types that are present in IE "Measurement control system information" in "System Information Block type 11" or "System Information Block type 12".

----- omitted -----

8.6.7.14 Inter-frequency measurement

If IE "Inter-frequency measurement" is received by the UE in a MEASUREMENT CONTROL message, where IE "measurement command" has the value "setup", but IE "Inter-frequency measurement quantity", IE "Inter-frequency reporting quantity" or "CHOICE Report criteria" is not received, the UE shall:

- clear all stored measurement control information related associated to this measurement identity in variable MEASUREMENT_IDENTITY;
- set the variable CONFIGURATION_INCOMPLETE to TRUE;
- in the case of an inter-frequency measurement for FDD:
 - if IE "Inter-frequency measurement" is received by the UE in a MEASUREMENT CONTROL message, where IE "measurement command" has the value "setup", if an inter-frequency event is configured that is different from event 2d or 2f, and if the IE "Inter-frequency SET UPDATE" is not received in that same message:
 - set the variable CONFIGURATION_INCOMPLETE to TRUE;
 - if the IE "Inter-frequency SET UPDATE" is received:
 - if the value of the ~~IE "Autonomous Set Update"~~ IE "UE autonomous update mode" set to "Off" or "On":
 - if more than one frequency is included in the list of cells pointed at in the IE "cells for measurement" if also included in the same IE "Inter-frequency measurement", or otherwise included in the "Inter-frequency cell info" part of the variable CELL_INFO_LIST:
 - set the variable INVALID_CONFIGURATION to TRUE.

If the variable CONFIGURATION_INCOMPLETE is set to TRUE, the UE shall:

- act as described in subclause 8.4.1.4a.

----- omitted -----

8.6.7.19.2 UE positioning OTDOA assistance data

If IE "UE positioning OTDOA reference cell info" is received in System Information Block type 15.4 or in the MEASUREMENT CONTROL message, the UE shall update the variable UE_POSITIONING_OTDOA_DATA accordingly. The UE shall:

- store received cell information in the UE positioning reference cell info in the variable UE_POSITIONING_OTDOA_DATA, overwriting any existing information.

If IE "UE positioning OTDOA neighbour cell list" is received in System Information Block type 15.4 or in the MEASUREMENT CONTROL message, the UE shall update the variable UE_POSITIONING_OTDOA_DATA accordingly. The UE shall:

- store received cell information in the neighbour cell info list in the variable CELL_INFO_LIST, overwriting any existing information.

If, according to its capabilities, UE does not support IPDLs and if IE "IPDL parameters" is received for the reference or any of the neighbour cells, the UE shall:

- ignore this IE.

If IE "UE positioning measurement" is received in the MEASUREMENT CONTROL message, the UE shall also perform the following consistency checks:

- if IE "Positioning Methods" is set to "OTDOA" or "Cell ID":
 - if IE "UE positioning OTDOA reference cell info" is not included and if UE positioning OTDOA reference cell info in variable UE_POSITIONING_OTDOA_DATA is empty:
 - set the variable CONFIGURATION_INCOMPLETE to TRUE;

- if IE "Positioning Methods" is set to "OTDOA":
 - if IE "UE positioning OTDOA neighbour cell list" is not included and if less than two neighbour cells are stored in UE positioning OTDOA neighbour cell info list in variable UE_POSITIONING_OTDOA_DATA:
 - set the variable CONFIGURATION_INCOMPLETE to TRUE;
 - if IE "Method Type" is set to "UE based":
 - if IE "UE positioning OTDOA reference cell info" is included and if IE "Cell Position" for the reference cell is not included:
 - set the variable CONFIGURATION_INCOMPLETE to TRUE;
 - if the IE "UE positioning OTDOA neighbour cell list" is included and if cell position of less than two neighbour cells of the cells included in this IE and stored in variable UE_POSITIONING_OTDOA_DATA are different and if those cell positions are not different to the one of the reference cell stored in variable UE_POSITIONING_OTDOA_DATA:
 - set the variable CONFIGURATION_INCOMPLETE to TRUE;
 - if the IE "UE positioning OTDOA neighbour cell list" is included and only two neighbour cells are included or stored in variable UE_POSITIONING_OTDOA_DATA and if the IE "Round Trip Time" is neither included for the neighbour cells nor for the reference cell info:
 - set the variable CONFIGURATION_INCOMPLETE to TRUE.

8.6.7.19.3 UE positioning GPS assistance data

8.6.7.19.3.1 UE positioning GPS acquisition assistance

If the IE "UE positioning GPS acquisition assistance" is included, the UE shall:

- store IE "GPS reference time" in the IE "UE positioning GPS reference time" in UE_POSITIONING_GPS_DATA;
- for each satellite:
 - update the variable UE_POSITIONING_GPS_DATA as follows:
 - store received GPS acquisition assistance at the position indicated by the IE "Sat ID" in the IE "UE positioning GPS acquisition assistance" in the variable UE_POSITIONING_GPS_DATA, possibly overwriting any existing information in this position.

----- omitted -----

10.2.45 SECURITY MODE FAILURE

This message is sent to indicate a failure to act on a received SECURITY MODE CONTROL COMMAND message.

RLC-SAP: AM

Logical channel: DCCH

Direction: UE→UTRAN

Information Element/Group name	Need	Multi	Type and reference	Semantics description
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	
Failure cause	MP		Failure cause and error information 10.3.3.14	

----- omitted -----

10.3.2.3 Cell selection and re-selection info for SIB3/4

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Mapping Info	OP		Mapping info 10.3.2.5	This IE should not be sent.
Cell_selection_and_reselection_quality_measure Cell selection and reselection quality measure	MP		Enumerated (CPICH Ec/N0, CPICH RSCP)	Choice of measurement (CPICH Ec/N0 or CPICH RSCP) to use as quality measure Q for FDD cells. This IE is also sent to the UE in SIB11/12. Both occurrences of the IE should be set to the same value.
CHOICE mode	MP			
>FDD				
>>S _{intrasearch}	OP		Integer (-32..20 by step of 2)	If a negative value is received the UE shall consider the value to be 0. [4] [dB]
>>S _{intersearch}	OP		Integer (-32..20 by step of 2)	If a negative value is received the UE shall consider the value to be 0. [4] [dB]
>>S _{searchHCS}	OP		Integer (-105..91 by step of 2)	If a negative value is received the UE shall consider the value to be 0. [4] [dB]
>>RAT List	OP	1 to <maxOther RAT>		
>>>RAT identifier	MP		Enumerated (GSM, cdma2000)	
>>>S _{search,RAT}	MP		Integer (-32..20 by step of 2)	In case the value 20 is received the UE shall consider this IE as if it was absent according to [4] If a negative value is received the UE shall consider the value to be 0. [dB]
>>>S _{HCS,RAT}	OP		Integer (-105..91 by step of 2)	If a negative value is received the UE shall consider the value to be 0. [4] [dB]
>>>S _{limit,SearchRAT}	MP		Integer (-32..20 by step of 2)	If a negative value is received the UE shall consider the value to be 0. [4] [dB]
>>Q _{qualmin}	MP		Integer (-24..0)	Ec/N0, [dB]
>>Q _{rxlevmin}	MP		Integer (-115..-25 by step of 2)	RSCP, [dBm]
>TDD				
>>S _{intrasearch}	OP		Integer (-105..91 by step of 2)	If a negative value is received the UE shall consider the value to be 0. [4] [dB]
>>S _{intersearch}	OP		Integer (-	If a negative value is received

			105..91 by step of 2)	the UE shall consider the value to be 0. [4] [dB]
>>S _{searchHCS}	OP		Integer (-105..91 by step of 2)	If a negative value is received the UE shall consider the value to be 0. [4] [dB]
>>RAT List	OP	1 to <maxOther RAT>		
>>>RAT identifier	MP		Enumerated (GSM, cdma2000)	
>>>S _{search,RAT}	MP		Integer (-105..91 by step of 2)	In case the value 91 is received the UE shall consider this IE as if it was absent according to [4] If a negative value is received the UE shall consider the value to be 0. [dB]
>>>S _{HCS,RAT}	OP		Integer (-105..91 by step of 2)	If a negative value is received the UE shall consider the value to be 0. [4] [dB]
>>>S _{limit,SearchRAT}	MP		Integer (-105..91 by step of 2)	If a negative value is received the UE shall consider the value to be 0. [4] [dB]
>>Q _{rxlevmin}	MP		Integer (-115..-25 by step of 2)	RSCP, [dBm]
Q _{hyst1s}	MP		Integer (0..40 by step of 2)	[4] [dB]
Q _{hyst2s}	CV-FDD-Quality-Measure		Integer (0..40 by step of 2)	Default value is Q _{hyst1s} [4] [dB]
T _{reselections}	MP		Integer (0..31)	[s]
HCS Serving cell Information	OP		HCS Serving cell information 10.3.7.12	
Maximum allowed UL TX power	MP		Maximum allowed UL TX power 10.3.6.39	[dBm] UE_TXPWR_MAX_RACH in [4].

Condition	Explanation
FDD-Quality-Measure	The IE is not needed if the IE " Cell_selection_and_reselection_quality_measure Cell selection and reselection quality measure" has the value CPICH RSCP, otherwise the IE is mandatory and has a default value.

10.3.2.4 Cell selection and re-selection info for SIB11/12

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Qoffset1 _{s,n}	MD		Integer(-50..50)	Default value is 0. [dB]
Qoffset2 _{s,n}	CV-FDD-Quality-Measure		Integer(-50..50)	Default value is 0. [dB]
Maximum allowed UL TX power	MD		Maximum allowed UL TX power 10.3.6.39	[dBm] UE_TXPWR_MAX_RACH in [4]. Default is the Maximum allowed UL TX power for the serving cell
HCS neighbouring cell information	OP		HCS Neighbouring cell information 10.3.7.11	
CHOICE mode	MP			
>FDD				
>>Qqualmin	CV-FDD-Serving-Cell		Integer (-24..0)	Ec/No, [dB] Default value is Qqualmin for the serving cell
>>Qrxlevmin	MD		Integer (-115..-25 by step of 2)	RSCP, [dBm] Default value is Qrxlevmin for the serving cell
>TDD				
>>Qrxlevmin	MD		Integer (-115..-25 by step of 2)	RSCP, [dBm] Default value is Qrxlevmin for the serving cell
>GSM				
>>Qrxlevmin	MD		Integer (-115..-25 by step of 2)	GSM RSSI, [dBm] Default value is Qrxlevmin for the serving cell

Condition	Explanation
FDD-Quality-Measure	This IE is mandatory and has a default value for Intra/Inter Frequency Cells if the IE " Cell_selection_and_reselection_quality_measureCell_selection_and_reselection_quality_measure " has the value CPICH Ec/No. Otherwise the IE is optional
FDD-Serving-Cell	This IE is mandatory and has a default value if the serving cell is an FDD cell. Otherwise the IE is mandatory present.

----- omitted -----

10.3.6.11 Constant value

This constant value is used by the UE to calculate the initial output power on PRACH according to the Open loop power control procedure. In TDD constant values are used for open loop power control of PRACH, USCH and UL DPCH as defined in subclause 8.5.7.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Constant value	MP		Integer (-35..-10)	In dB

10.3.7.10 HCS Cell re-selection information

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Penalty_time	MD		Integer(0, 10, 20, 30, 40, 50, 60)	Default value is 0 which means = not used In seconds
Temporary_offsets	<i>CV-Penalty used</i>			
>Temporary_offset1	MP		Integer(3, 6, 9, 12, 15, 18, 21, inf)	[dB]
>Temporary_offset2	<i>CV-FDD-Quality-Measure</i>		Integer(2, 3, 4, 6, 8, 10, 12, inf)	[dB]

Condition	Explanation
<i>Penalty used</i>	This IE is not needed if the IE "Penalty time" equals "not used", else it is mandatory present.
<i>FDD-Quality-Measure</i>	This IE is not needed if the IE " Cell_selection_and_reselection_quality_measureCell selection and reselection quality measure " has the value CPICH RSCP, otherwise the IE is mandatory present. This conditional presence is implemented in ASN.1 by the use of a specific RSCP and EcN0 variant of 10.3.7.10.

----- omitted -----

10.3.7.33 Intra-frequency cell info list

Contains the information for the list of measurement objects for an intra-frequency measurement.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
CHOICE <i>Intra-frequency cell removal</i>	OP			Absence of this IE is equivalent to choice "Remove no intra-frequency cells".
>Remove all intra-frequency cells				No data
>Remove some intra-frequency cells				
>>Removed intra-frequency cells	MP	1 to <maxCellMeas>		
>>>Intra-frequency cell id	MP		Integer(0 .. <maxCellMeas> - 1)	
>Remove no intra-frequency cells				
New intra-frequency cells	OP	1 to <maxCellMeas>		This information element must be present when "Intra-frequency cell info list" is included in the system information
>Intra-frequency cell id	OP		Integer(0 .. <maxCellMeas> - 1)	
>Cell info	MP		Cell info 10.3.7.2	
Cells for measurement	CV- <i>BCHopt</i>	1 to <maxCellMeas>		
>Intra-frequency cell id	MP		Integer(0 .. <maxCellMeas>-1)	

Condition	Explanation
<i>BCHopt</i>	This IE is not needed when sent in SYSTEM INFORMATION. Otherwise, the IE is Optional

----- omitted -----

10.3.7.47 Measurement control system information

Information element/Group name	Need	Multi	Type and reference	Semantics description
Use of HCS	MP		Enumerated (Not used, used)	Indicates if the serving cell belongs to a HCS structure
Cell selection and reselection quality measure Cell selection and reselection quality measure	MP		Enumerated (CPICH Ec/N0, CPICH RSCP)	Choice of measurement (CPICH Ec/N0 or CPICH RSCP) to use as quality measure Q.
Intra-frequency measurement system information	OP		Intra-frequency measurement system information 10.3.7.40	
Inter-frequency measurement system information	OP		Inter-frequency measurement system information 10.3.7.20	
Inter-RAT measurement system information	OP		Inter-RAT measurement system information 10.3.7.31	
Traffic volume measurement system information	OP		Traffic volume measurement system information 10.3.7.73	
UE Internal measurement system information	OP		UE Internal measurement system information 10.3.7.81	

----- omitted -----

14.3.1 Inter-RAT reporting events

Within the measurement reporting criteria field in the MEASUREMENT CONTROL message the UTRAN notifies the UE which events should trigger the UE to send a MEASUREMENT REPORT message. The listed events are the toolbox from which the UTRAN can choose the reporting events that are needed for the implemented handover evaluation function, or other radio network functions.

All events are measured with respect to one of the measurement quantities given in subclause 14.3.0a, and of the frequency quality estimate given in subclause 14.3.0b. For UTRAN the measurement quantities are measured on the monitored primary common pilot channels (CPICH) in FDD mode and the monitored primary common control channels (PCCPCH) in TDD mode of the cell defined in the measurement object. For other RATs the measurement quantities are system-specific. A "used UTRAN frequency" is a frequency that the UE have been ordered to measure upon and is also currently used for the connection to UTRAN. "Other system" is e.g. GSM.

In the text below describing the events:

- "The BCCH ARFCN and BSIC combinations considered in that inter-RAT measurement" shall be understood as the BCCH ARFCN and BSIC combinations of the inter-RAT cells pointed at in the IE "Cells for measurements" if it has been received for that inter-RAT measurement, or otherwise of the cells included in the "inter-RAT cell info" part of the variable CELL_INFO LIST.

- "The BCCH ARFCNs considered in that inter-RAT measurement" shall be understood as the BCCH ARFCNs of the inter-RAT cells pointed at in the IE "Cells for measurements" if it has been received for that inter-RAT measurement, or otherwise of the cells included in the "inter-RAT cell info" part of the variable CELL_INFO LIST.

----- omitted -----

14.11.1 Initial virtual active set

The way the UE shall act when a MEASUREMENT CONTROL message is received that sets up or modifies an inter-frequency measurement, and that includes the IE "Inter-frequency set update" and/or the IE "Intra-Frequency measurement reporting quantity" is described below. The UE shall:

- if the IE "Intra-Frequency measurement reporting criteria" is included in the MEASUREMENT CONTROL message, or if it was previously stored and if the IE "Inter-frequency set update" was included in the MEASUREMENT CONTROL message:
 - if the IE "UE autonomous update mode" received or previously stored is set to "on" or "on with no reporting":
 - for each non-used frequency F_i considered in the measurement:
 - include in the initial virtual active set the N_i cells that have either the greatest downlink E_c/N_0 , the greatest downlink RSCP after despreading, or the lowest pathloss (depending on what is indicated in the IE "inter-frequency measurement quantity"), among the cells on frequency F_i considered in that inter-frequency measurement, where:

- if event 1a is configured in the "Intra-Frequency measurement reporting criteria":

$$N_i = \min(N_{1a}, N_{Cells\ F_i}) \text{ if } N_{1a} \neq 0 \text{ and } N_i = N_{Cells\ F_i} \text{ otherwise.}$$

where:

N_{1a} is the "Reporting deactivation threshold" included in the "Intra-Frequency measurement" IE received for that inter-frequency measurement for event 1a.

$N_{Cells\ F_i}$ is the number of cells on frequency F_i considered in that inter-frequency measurement.

- else, if event 1c is configured in the "Intra-Frequency measurement reporting criteria":

$$N_i = \min(N_{1c}, N_{Cells\ F_i}) \text{ if } N_{1c} \neq 0 \text{ and } N_i = N_{Cells\ F_i} \text{ otherwise.}$$

where:

N_{1c} is the "Replacement activation threshold" included in the "Intra-Frequency measurement" IE received for that inter-frequency measurement for event 1c.

$N_{Cells\ F_i}$ is the number of cells on frequency F_i considered in that inter-frequency measurement.

- else:

$$N_i = N_{Cells\ F_i}$$

where:

$N_{Cells\ F_i}$ is the number of cells on frequency F_i considered in that inter-frequency measurement;

- if the IE "UE autonomous update mode" received or previously stored is set to "on":

- if event 1a is configured in the "Intra-Frequency measurement reporting criteria":
 - send a MEASUREMENT REPORT with IEs set as follows:
 - set the Measurement identity to the identity of the inter-frequency measurement;
 - set the CHOICE event result in the IE Event results to Intra-frequency measurement event results, Intra-frequency event identity to 1a, and in "Cell measurement event results" the CPICH info of all the cells included in a virtual active set of the non-used frequency considered in the inter-frequency measurement;
 - do not include the IE "measured results".
 - else, if event 1c is configured in the "Intra-Frequency measurement reporting criteria":
 - send a measurement report with IEs set as follows:
 - set the Measurement identity to the identity of the inter-frequency measurement;
 - set the CHOICE event result in the IE Event results to Intra-frequency measurement event results, Intra-frequency event identity to 1c, and in "Cell measurement event results" the CPICH info of all the cells included in the virtual active set of the frequency considered in the inter-frequency measurement;
 - do not include the IE "measured results";
- if the IE "Inter-frequency set update" is included in the message and if the IE "UE autonomous update mode" is set to "Off":
 - if the IE "Measurement command" is set to "Modify", if the value previously stored for the ~~IE "UE autonomous update set"~~ IE "UE autonomous update mode" was also "Off" and if the IE "Intra-frequency measurement reporting criteria" was not included in the message:
 - apply the modifications indicated in the "Inter-frequency set update" to the virtual active set that was valid before the message was received for the non-used frequency considered in that inter-frequency measurement.
 - otherwise:
 - remove the possibly existing virtual active set of the non-used frequency considered in that measurement; and
 - set the initial virtual active set for it according to the "Inter-frequency set update" included in the message;
- if the IE "Inter-frequency set update" is not included in the message and if the IE "UE autonomous update mode" stored for the inter-frequency measurement is set to "Off":
 - remove the possibly existing virtual active set of the non-used frequency considered in that measurement; and
 - consider the virtual active set for it as empty.
- if the IE "Intra-Frequency measurement reporting criteria" was not included in the MEASUREMENT CONTROL message:
 - if the IE "UE autonomous update mode" is set to "on" or "on with no reporting":
 - for each non-used frequency F_i considered in the measurement:
 - include in the initial virtual active set the N_i cells that have either the greatest downlink E_c/N_0 or the greatest downlink RSCP after despreading or the lowest pathloss (depending on what is indicated in the IE "inter-frequency measurement quantity"), among the cells on frequency F_i considered in that inter-frequency measurement, where:
 - if event 1a is configured for the used frequency in an intra-frequency measurement; and

- if the "Reporting deactivation threshold" is included:

$$N_i = \min(N_{Ia}, N_{Cells Fi}) \text{ if } N_{Ia} \neq 0 \text{ and } N_i = N_{Cells Fi} \text{ otherwise.}$$

where:

N_{Ia} is the "Reporting deactivation threshold" included in the intra-frequency measurement for the first event 1a defined in the intra-frequency measurement with the lowest identity.

$N_{Cells Fi}$ is the number of cells on frequency F_i considered in that inter-frequency measurement.

- else, if event 1c is configured for the used frequency in an intra-frequency measurement:

$$N_i = \min(N_{Ic}, N_{Cells Fi}) \text{ if } N_{Ic} \neq 0 \text{ and } N_i = N_{Cells Fi} \text{ otherwise.}$$

where:

N_{Ic} is the "Replacement activation threshold" included in the "Intra-Frequency measurement" for the first event 1c defined in the intra-frequency measurement with the lowest identity.

$N_{Cells Fi}$ is the number of cells on frequency F_i considered in that inter-frequency measurement.

- else:

$$N_i = N_{Cells Fi}$$

where:

$N_{Cells Fi}$ is the number of cells on frequency F_i considered in that inter-frequency measurement.

- if the IE "UE autonomous update mode" is set to "on":
 - if event 1a is configured for the used frequency in an intra-frequency measurement:
 - send a measurement report with IEs set as follows:
 - set the Measurement identity to the identity of the inter-frequency measurement;
 - set the CHOICE event result in the IE Event results to Intra-frequency measurement event results, Intra-frequency event identity to 1a, and in "Cell measurement event results" the CPICH info of all the cells included in the initial virtual active set of the non-used frequency considered in that measurement;
 - do not include the IE "measured results".
 - else, if event 1c is configured for the used frequency in an intra-frequency measurement:
 - send a measurement report with IEs set as follows:
 - set the Measurement identity to the identity of the inter-frequency measurement;
 - set the CHOICE event result in the IE Event results to Intra-frequency measurement event results, Intra-frequency event identity to 1c, and in "Cell measurement event results" the CPICH info of all the cells included in the initial virtual active set of the non-used frequency considered in that measurement;
 - do not include the IE "measured results".
- if the IE "UE autonomous update mode" is set to "off":
 - set the initial virtual active set of the non-used frequency considered in that inter-frequency measurement according to what is included in the IE "Inter-frequency set update" included in the message; and
 - if the IE "Inter-frequency set update" was not received:

- set the initial virtual active set for the frequencies considered in that measurement to be empty.

CHANGE REQUEST

⌘ **25.331 CR 1112** ⌘ ev **-** ⌘ Current version: **3.8.0** ⌘

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

Proposed change affects: ⌘ (U)SIM ME/UE Radio Access Network Core Network

Title:	⌘ Correction of Description of IE "SSDT Information"		
Source:	⌘ TSG-RAN WG2		
Work item code:	⌘ TEI	Date:	⌘ 2001-11-15
Category:	⌘ F	Release:	⌘ R99
	Use <u>one</u> 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 <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)

Reason for change: ⌘ **Clause 8.6.6.25:**

The information element "SSDT Information" indicates the status (e.g. initiated/terminated) of the Site Selection Diversity Transmit power control (SSDT) for FDD. It is used to change the SSDT status. The parameter "Code Word Set" indicates how cell identities are coded (using many bits or few, values are long, medium, or short). Till now SSDT behaviour upon reception of IE "Code Word Set" with value "SSDT off" is not explicitly described. Because this is the only possibility to terminate SSDT, description is necessary.

Summary of change:	<p>⌘ Clause 8.6.6.25 : A description is added that if the IE "Code Word Set" has the value "long", "medium" or "short", this value is used for the length of the temporary cell ID code for SSDT and if the IE "Code Word Set" has the value "SSDT off", this value terminates SSDT.</p> <p>Isolated Impact Analysis:</p> <ul style="list-style-type: none"> • Correction to a function where the specification was: <ul style="list-style-type: none"> ○ ambiguous or not sufficiently explicit. <p>Would not affect implementations behaving like indicated in the CR, would affect implementations supporting the corrected functionality otherwise.</p> <p>Affected function:</p> <p>The UE handling on the reception of IE "SSDT Information" has been corrected.</p>
Consequences if not approved:	⌘ Ambiguous specification

Clauses affected:	⌘ 8.6.6.25		
Other specs affected:	<table border="0"> <tr> <td style="vertical-align: top;"> <input type="checkbox"/> Other core specifications <input type="checkbox"/> Test specifications <input type="checkbox"/> O&M Specifications </td> <td style="vertical-align: top; padding-left: 20px;">⌘ 25.331 v4.2.1, CR 1113</td> </tr> </table>	<input type="checkbox"/> Other core specifications <input type="checkbox"/> Test specifications <input type="checkbox"/> O&M Specifications	⌘ 25.331 v4.2.1, CR 1113
<input type="checkbox"/> Other core specifications <input type="checkbox"/> Test specifications <input type="checkbox"/> O&M Specifications	⌘ 25.331 v4.2.1, CR 1113		
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/3G_Specs/CRs.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.

8.6.6.25 SS DT Information

If the IE "SS DT Information" is included the UE shall:

- configure the size of the S-field in the FBI field on the uplink DPCCH to the value indicated in the IE "S-field";
- if the IE "Code Word Set" has the value "long", "medium" or "short":
 - use the length of the temporary cell ID code for SS DT indicated in the IE "Code Word Length".
- if the IE "Code Word Set" has the value "SS DT off":
 - terminate SS DT

CHANGE REQUEST

⌘ **25.331 CR 1113** ⌘ ev **-** ⌘ Current version: **4.2.1** ⌘

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

Proposed change affects: ⌘ (U)SIM ME/UE Radio Access Network Core Network

Title:	⌘ Correction of Description of IE "SSDT Information"		
Source:	⌘ TSG-RAN WG2		
Work item code:	⌘ TEI	Date:	⌘ 2001-11-15
Category:	⌘ A	Release:	⌘ REL-4
	<i>Use <u>one</u> of the following categories:</i> 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.		<i>Use <u>one</u> of the following releases:</i> 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)

Reason for change: ⌘ **Clause 8.6.6.25:**

The information element "SSDT Information" indicates the status (e.g. initiated/terminated) of the Site Selection Diversity Transmit power control (SSDT) for FDD. It is used to change the SSDT status. The parameter "Code Word Set" indicates how cell identities are coded (using many bits or few, values are long, medium, or short). Till now SSDT behaviour upon reception of IE "Code Word Set" with value "SSDT off" is not explicitly described. Because this is the only possibility to terminate SSDT, description is necessary.

Summary of change:	<p>⌘ Clause 8.6.6.25 : A description is added that if the IE "Code Word Set" has the value "long", "medium" or "short", this value is used for the length of the temporary cell ID code for SSDT and if the IE "Code Word Set" has the value "SSDT off", this value terminates SSDT.</p> <p>Isolated Impact Analysis:</p> <ul style="list-style-type: none"> • Correction to a function where the specification was: <ul style="list-style-type: none"> ○ ambiguous or not sufficiently explicit. <p>Would not affect implementations behaving like indicated in the CR, would affect implementations supporting the corrected functionality otherwise.</p> <p>Affected function:</p> <p>The UE handling on the reception of IE "SSDT Information" has been corrected.</p>
Consequences if not approved:	⌘ Ambiguous specification

Clauses affected:	⌘ 8.6.6.25									
Other specs affected:	<table border="0"> <tr> <td style="vertical-align: top;">⌘ <input type="checkbox"/></td> <td>Other core specifications</td> <td style="vertical-align: top;">⌘ 25.331 v3.8.0, CR 1112</td> </tr> <tr> <td style="vertical-align: top;"><input type="checkbox"/></td> <td>Test specifications</td> <td></td> </tr> <tr> <td style="vertical-align: top;"><input type="checkbox"/></td> <td>O&M Specifications</td> <td></td> </tr> </table>	⌘ <input type="checkbox"/>	Other core specifications	⌘ 25.331 v3.8.0, CR 1112	<input type="checkbox"/>	Test specifications		<input type="checkbox"/>	O&M Specifications	
⌘ <input type="checkbox"/>	Other core specifications	⌘ 25.331 v3.8.0, CR 1112								
<input type="checkbox"/>	Test specifications									
<input type="checkbox"/>	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/3G_Specs/CRs.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.

8.6.6.25 SS DT Information

If the IE "SSDT Information" is included the UE shall:

- configure the size of the S-field in the FBI field on the uplink DPCCH to the value indicated in the IE "S-field";
- if the IE "Code Word Set" has the value "long", "medium" or "short":
 - use the length of the temporary cell ID code for SS DT indicated in the IE "Code Word Length".
- if the IE "Code Word Set" has the value "SSDT off":
 - terminate SS DT

CHANGE REQUEST

⌘ **25.331 CR 1114** ⌘ ev **r2** ⌘ Current version: **3.8.0** ⌘

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

Proposed change affects: ⌘ (U)SIM ME/UE Radio Access Network Core Network

Title:	⌘ Clarification on Cell Identity and correction to reference to BAND_INDICATOR		
Source:	⌘ TSG-RAN WG2		
Work item code:	⌘ TEI	Date:	⌘ 19.11.2001
Category:	⌘ F	Release:	⌘ R99
	<i>Use <u>one</u> of the following categories:</i> 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 .		<i>Use <u>one</u> of the following releases:</i> 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)

Reason for change:	⌘ The reference related to the BAND_INDICATOR is wrong. It is changed to reference 5.05. The specification does not contain information about what the IE "Cell Identity" contains.
Summary of change:	⌘ Clarification of information element "Cell Identifier" Reference to BAND_INDICATOR corrected
Consequences if not approved:	⌘ In principle there would not be a need to specify the content of the IE "Cell Identity". However, since the Cell Identifier is specified in 25.401 and due to the similarity of the names it causes confusion on whether these Identifiers are the same. In order to avoid this confusion and for the sake of clarity it is recommended to include the reference to 25.401 and clarify possible settings of the IE. « Correction to a function where the specification was : <ul style="list-style-type: none"> ○ Ambiguous or not sufficiently explicit. Would not affect implementations behaving like indicated in the CR, would affect implementations supporting the corrected functionality otherwise. No impact on UE.

Clauses affected:	⌘ 8.3.7.3, 10.3.2.2	
Other specs affected:	<input type="checkbox"/> Other core specifications <input type="checkbox"/> Test specifications <input type="checkbox"/> O&M Specifications	⌘ 25.331 v4.2.1, CR 1115

Other comments: ☹

How to create CRs using this form:

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- 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.

8.3.7.3 Reception of a HANDOVER FROM UTRAN COMMAND message by the UE

The UE shall be able to receive a HANDOVER FROM UTRAN COMMAND message and perform an inter-RAT handover, even if no prior UE measurements have been performed on the target cell.

The UE shall:

- establish the connection to the target radio access technology, by using the contents of the IE "Inter-RAT message". This IE contains a message specified in another standard, as indicated by the IE "System type", and carries information about the candidate/ target cell identifier(s) and radio parameters relevant for the target radio access technology. The correspondence between the value of the IE "System type", the standard to apply and the message contained within IE "Inter RAT message" is shown in the following:

Value of the IE "System type"	Standard to apply	Inter RAT Message
GSM	GSM TS 04.18, version 8.5.0 or later	HANDOVER COMMAND
cdma2000	TIA/EIA/IS-2000 or later, TIA/EIA/IS-833 or later, TIA/EI/IS-834 or later	

- if the IE "System type" has the value "GSM":
 - if the IE "Frequency band" has the value "GSM /DCS 1800 band used":
 - set the BAND_INDICATOR [2645] to "ARFCN indicates 1800 band";
 - if the IE "Frequency band" has the value " GSM /PCS 1900 band used":
 - set the BAND_INDICATOR [2645] to "ARFCN indicates 1900 band";
- apply the "Inter RAT Message" according to the "standard to apply" in the table above.
- in case one or more IEs "RAB info" is included in the HANDOVER FROM UTRAN COMMAND message:
 - connect upper layer entities corresponding to indicated RABs to the radio resources indicated in the inter-RAT message;

NOTE: Requirements concerning the establishment of the radio connection towards the other radio access technology and the signalling procedure are outside the scope of this specification.

10.3.2.2 Cell identity

This information element identifies a cell unambiguously within a PLMN.

Note: This information element may carry any implementation dependent identity that unambiguously identifies a cell within a PLMN.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Cell identity	MP		bit string(28)	

CHANGE REQUEST

⌘ **25.331 CR 1115** ⌘ ev ⌘ Current version: **4.2.1** ⌘

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

Proposed change affects: ⌘ (U)SIM ME/UE Radio Access Network Core Network

Title: ⌘ Clarification on Cell Identity and correction to reference to BAND_INDICATOR

Source: ⌘ TSG-RAN WG2

Work item code: ⌘ TEI **Date:** ⌘ 19.11.2001

<p>Category: ⌘ A</p> <p>Use <u>one</u> of the following categories:</p> <ul style="list-style-type: none"> F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) <p>Detailed explanations of the above categories can be found in 3GPP TR 21.900.</p>	<p>Release: ⌘ REL-4</p> <p>Use <u>one</u> of the following releases:</p> <ul style="list-style-type: none"> 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)
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Reason for change: ⌘ The reference related to the BAND_INDICATOR is wrong. It is changed to reference 5.05.

The specification does not contain information about what the IE "Cell Identity" contains.

Summary of change: ⌘ Clarification of information element "Cell Identifier"
Reference to BAND_INDICATOR corrected

Consequences if not approved: ⌘ In principle there would not be a need to specify the content of the IE "Cell Identity". However, since the Cell Identifier is specified in 25.401 and due to the similarity of the names it causes confusion on whether these Identifiers are the same. In order to avoid this confusion and for the sake of clarity it is recommended to include the reference to 25.401 and clarify possible settings of the IE.

No impact on UE.

Clauses affected: ⌘ 8.3.7.3, 10.3.2.2

Other specs affected: ⌘ Other core specifications ⌘ 25.331 v3.8.0, CR 1114r2
 Test specifications
 O&M Specifications

Other comments: ⌘

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 - if the IE "Frequency band" has the value "GSM /DCS 1800 band used":
 - set the BAND_INDICATOR [2645] to "ARFCN indicates 1800 band";
 - if the IE "Frequency band" has the value " GSM /PCS 1900 band used":
 - set the BAND_INDICATOR [2645] to "ARFCN indicates 1900 band";
- apply the "Inter RAT Message" according to the "standard to apply" in the table above.
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NOTE: Requirements concerning the establishment of the radio connection towards the other radio access technology and the signalling procedure are outside the scope of this specification.

10.3.2.2 Cell identity

This information element identifies a cell unambiguously within a PLMN.

Note: This information element may carry any implementation dependent identity that unambiguously identifies a cell within a PLMN.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Cell identity	MP		bit string(28)	