TSG-RAN Meeting #20 ***RP-030293***
Hämeenlinna, Finland, 03-06 June 2003

Title: **CRs (Release '99 and Rel-4/Rel-5 category A) to TS 25.331 (1)**

Source: **TSG-RAN WG2**

Agenda item: **7.2.3**

Spec	CR	Rev	Phase	Subject	Cat	Version-Current	Version-New	Doc-2nd-Level	Workitem
25.331	1911	-	R99	Handling of UP Assistance Data	F	3.14.0	3.15.0	R2-031291	TEI
25.331	1912	-	Rel-4	Handling of UP Assistance Data	A	4.8.0	4.9.0	R2-031292	TEI
25.331	1913	-	Rel-5	Handling of UP Assistance Data	A	5.3.0	5.4.0	R2-031293	TEI
25.331	1914	1	R99	Concerns on Procedures for Cell-ID Positioning Method	F	3.14.0	3.15.0	R2-031433	TEI
25.331	1915	1	Rel-4	Concerns on Procedures for Cell-ID Positioning Method	A	4.8.0	4.9.0	R2-031434	TEI
25.331	1916	1	Rel-5	Concerns on Procedures for Cell-ID Positioning Method	A	5.3.0	5.4.0	R2-031435	TEI
25.331	1917	-	R99	Inconsistency between Procedural, ASN.1, and Tabular Aspects of UE Positioning Error	F	3.14.0	3.15.0	R2-031300	TEI
25.331	1918	-	Rel-4	Inconsistency between Procedural, ASN.1, and Tabular Aspects of UE Positioning Error	A	4.8.0	4.9.0	R2-031301	TEI
25.331	1919	-	Rel-5	Inconsistency between Procedural, ASN.1, and Tabular Aspects of UE Positioning Error	A	5.3.0	5.4.0	R2-031302	TEI
25.331	1920	-	R99	Removal of FFS (For further Study) and references to other working groups	F	3.14.0	3.15.0	R2-031303	TEI
25.331	1921	-	Rel-4	Removal of FFS (For further Study) and references to other working groups	A	4.8.0	4.9.0	R2-031304	TEI
25.331	1922	-	Rel-5	Removal of FFS (For further Study) and references to other working groups	A	5.3.0	5.4.0	R2-031305	TEI
25.331	1924	-	R99	Key handling when entering idle mode and coding of security capabilities	F	3.14.0	3.15.0	R2-031308	TEI
25.331	1925	-	Rel-4	Key handling when entering idle mode and coding of security capabilities	A	4.8.0	4.9.0	R2-031309	TEI
25.331	1926	-	Rel-5	Key handling when entering idle mode and coding of security capabilities	A	5.3.0	5.4.0	R2-031310	TEI
25.331	1927	-	R99	Security actions when SIM is present on RRC Connection Request	F	3.14.0	3.15.0	R2-031311	TEI
25.331	1928	-	Rel-4	Security actions when SIM is present on RRC Connection Request	A	4.8.0	4.9.0	R2-031312	TEI
25.331	1929	-	Rel-5	Security actions when SIM is present on RRC Connection Request	A	5.3.0	5.4.0	R2-031313	TEI

3GPP TSG-RAN2 Meeting #36
Paris, France, 19th-23rd May 2003

Tdoc R2-031291

CR-Form-v7

CHANGE REQUEST

⌘ **25.331** **CR** **1911** ⌘ **rev** **-** ⌘ Current version: **3.e.0** ⌘

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

Title:	⌘	Handling of UP Assistance Data
Source:	⌘	RAN WG2
Work item code:	⌘	TEI
Date:	⌘	19-05-2003
Category:	⌘	**F**
Release:	⌘	R99

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

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

Reason for change: ⌘

- **Point 1: Updating the variables UE_POSITIONING_GPS_DATA and MEASUREMENT_IDENTITY**

In section 8.4.1.3 it is specified that at the reception of a MEASUREMENT CONTROL "modify", for UE Positioning measurement, the UE shall replace all the assistance data stored in the variable MEASUREMENT_IDENTITY with the one received in the MEASREMNT CONTROL message. In section 8.6.7.19.3 it is specified the behaviour of the UE when GPS assistance data is received, i.e. the UE shall update its variable UE_POSITIONING_GPS_DATA. It should be noted that the UE may receive assistance data by means of three different mechanisms, i.e. via System Information broadcast, via ASSISTANCE DATA DELIVERY (triggered by a UE request to CN via NAS for GPS assistance data) or via MEASUREMENT CONTROL when a UP measurement is setup in the UE. For all IEs of GPS assistance data except Almanac and Navigation Model (i.e. Ephemeris and Clock corrections) the UE shall replace the existing information in its variable with the new received information. The update for Almanac or Navigation model is done per satellite basis adding new information for a new satellite possibly overwriting existing information. The consequence of this different handling the assistance data in the variable UE_POSITIONING_GPS_DATA and the assistance data in the variable MEASUREMENT_IDENTITY may be different. In particular the list of satellites in the two variables may be different. When a UP measurement is setup, in the current specification it is ambiguous whether the UE shall consider for measurement the information (e.g. the list of satellites) in the UE_POSITIONING_GPS_DATA or MEASUREMENT_IDENTITY.

- **Point 2: Deletion of UE_POSITIONING_GPS_DATA at transition from CELL_DCH to CELL_FACH**

In section 8.4.1.6.7 it is specified that when the UE transits from CELL_DCH to CELL_FACH in which is not a priori known by UTRAN the UE shall remove the data

	from the variable UE_POSITIONING_GPS_DATA. The reason for this requirement was that some of the assistance data is in the cell scope and therefore the UE shall obtain information valid in the reselected cell. However the biggest part of the assistance data (e.g. information in SIB15.3 is PLMN scope but also a part of the Ephemeris) are in a wider scope than a cell and therefore there is no need to remove the data from the UE.
Summary of change: ⌘	• **Point 1** It is proposed that the UE shall measure the satellites in the variable UE_POSITIONING_GPS_DATA. A clarification is added in section 8.6.7.19.1a and section 8.6.7.19.1b. • **Point 2** It is proposed that we remove the requirement to delete the assistance data and rely on the UE to maintain valid data. In the section 10.3.7.87 it is clarified that the IE "GPS Additional Assistance data Request" may be included only when the error reason is "UE positioning GPS assistance data missing" as specified in section 8.6.7.19.5.
Consequences if not approved: ⌘	**If the UE does not implement the CR:** it is possible that the UE has not valid (or up to date) assistance data to perform the requested UP measurements. Therefore UE Positioning reports may experience an unacceptable delay or be inaccurate. In the scenario where UE is in CELL_DCH (or in CELL_FACH and GPS assistance data is not sent over the system information broadcast in the cell) if the UE does not use the satellite list in the variable UE_POSITIONING_GPS_DATA it may request UTRAN for additionally assistance data which will force UTRAN to send more GPS assistance data leading to an unnecessary increase of DL signalling (it should be noted that SRB2 is blocked for other RRC messages while the assistance data is delivered) and delay the UP location report. If the UE removes the assistance data from the variable UE_POSITIONING_GPS_DATA at transition from CELL_DCH to CELL_FACH this will lead to unnecessary UE actions to read System Information or request UTRAN for assistance data in order to perform the requested measurements..

Clauses affected:	⌘	8.4.1.6.7, 8.6.7.19.1a, 8.6.7.19.1b, 10.3.7.87			
Other specs affected:	⌘	**Y**	**N**		
			X	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

How to create CRs using this form:

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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.

8.4.1.6.7 UE positioning measurement

Upon transition from CELL_DCH to CELL_PCH or URA_PCH, the UE shall

1> if the UE does not support UE positioning measurement validity in CELL_PCH and URA_PCH states as indicated in the IE "UE positioning capability" included in the IE "UE Radio Access Capability":

2> stop UE positioning measurement reporting.

Upon transition from CELL_DCH to CELL_FACH, or upon transition from CELL_DCH to CELL_PCH or URA_PCH and if the UE supports UE positioning measurement validity in CELL_PCH and URA_PCH states as indicated in the IE "UE positioning capability" included in the IE "UE Radio Access Capability", the UE shall:

1> retrieve each set of measurement control information of measurement type "UE positioning" stored in the variable MEASUREMENT_IDENTITY; and

2> if the optional IE "measurement validity" for this measurement has not been included:

3> delete the measurement associated with the variable MEASUREMENT_IDENTITY.

2> if the IE "measurement validity" for the measurement has been included, and the IE "UE state" has been assigned to value "CELL_DCH":

3> stop measurement reporting;

3> store the measurement associated with the variable MEASUREMENT_IDENTITY to be used after the next transition to CELL_DCH state.

2> if the IE "measurement validity" for the measurement has been included, and the IE "UE state" has been assigned to value "all states":

3> upon transition from CELL_DCH to CELL_PCH or URA_PCH:

4> if the choice in the IE "Reporting Criteria" included the IE "UE Positioning" stored in the variable MEASUREMENT_IDENTITY is set to "UE positioning reporting criteria" and the value of the IE "Measurement interval " included in this IE is less than 64 seconds:

5> consider the value of the IE "Measurement interval " as being 64 seconds.

4> if the choice in the IE "Reporting Criteria" included the IE "UE Positioning" stored in the variable MEASUREMENT_IDENTITY is set to "Periodical Reporting Criteria" and the value of the IE "Reporting interval" included in this IE is less than 64 seconds:

5> consider the value of the IE "Reporting Interval" as being 64 seconds.

3> continue measurement reporting according to its UE positioning measurement reporting capability.

2> if the IE "measurement validity" has been included and the IE "UE state" has been assigned to value "all states except CELL_DCH":

3> upon transition from CELL_DCH to CELL_PCH or URA_PCH:

4> if the choice in the IE "Reporting Criteria" included the IE "UE Positioning" stored in the variable MEASUREMENT_IDENTITY is set to "UE positioning reporting criteria" and the value of the IE "Measurement interval " included in this IE is less than 64 seconds:

5> consider the value of the IE "Measurement interval " as being 64 seconds.

4> if the choice in the IE "Reporting Criteria" included the IE "UE Positioning" stored in the variable MEASUREMENT_IDENTITY is set to "Periodical Reporting Criteria" and the value of the IE "Reporting interval" included in this IE is less than 64 seconds:

5> consider the value of the IE "Reporting Interval" as being 64 seconds.

3> resume this measurement and associated reporting according to its UP measurement reporting capability.

1> if the transition is due to a reconfiguration message which included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selects a cell other than that indicated by this IE; or

1> if the transition is due to a reconfiguration message which does not include the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD); or

1> if the transition is not due to a reconfiguration message:

2> delete the assistance data included in the variable UE_POSITIONING_OTDOA_DATA_UE_BASED and~~,~~ UE_POSITIONING_OTDOA_DATA_UE_ASSISTED~~ and UE_POSITIONING_GPS_DATA~~.

1> if the IE "Positioning Methods" stored in the variable MEASUREMENT_IDENTITY is set to "OTDOA" or "OTDOA or GPS":

2> if the IE "Method type" stored in the variable MEASUREMENT_IDENTITY is set to "UE-based" or "UE assisted preferred but UE-based allowed" or "UE-based preferred but UE-assisted allowed":

3> begin monitoring assistance data received in System Information Block type 15.4 and System Information Block type 15.5 according to subclause 8.1.1.6.15.

2> if the IE "Method type" stored in the variable MEASUREMENT_IDENTITY is set to "UE-assisted":

3> begin monitoring assistance data received in System Information Block type 15.4 according to subclause 8.1.1.6.15.

1> if the UE is in CELL_FACH state:

2> if the IE "UE positioning OTDOA neighbour cell list for UE assisted" stored in the variable UE_POSITIONING_OTDOA_DATA_UE_ASSISTED or UE_POSITIONING_OTDOA_DATA_UE_BASED contains neighbour cells on other frequencies than the current frequency:

3> perform measurements on other frequencies according to the IE "FACH measurement occasion info".

The UE may:

1> if the IE "Positioning Methods" stored in the variable MEASUREMENT_IDENTITY is set to "GPS" or "OTDOA or GPS":

2> begin monitoring assistance data received in System Information Block type 15 and/or System Information Block type 15.1 and/or System Information Block type 15.2 and/or System Information Block type 15.3 according to subclause 8.1.1.6.15.

8.6.7.19.1a UE positioning reporting for UE assisted methods

The UE shall:

1> when a measurement report is triggered; and

1> if higher layers indicated that the positioning request is permitted:

2> if the UE was able to perform measurements on at least one neighbour cell included in the variable UE_POSITIONING_OTDOA_DATA_UE_ASSISTED in case of OTDOA or one satellite included in the variable UE_POSITIONING_GPS_DATA in case of GPS positioning:

3> if the IE "Vertical Accuracy" is included:

4> interpret the presence of this IE to indicate that the UTRAN desires to compute a 3-dimensional position estimate.

3> if the IE "Positioning Methods" is set to "GPS":

4> include the IE "UE positioning GPS measured results" in the measurement report and set the contents of the IE as follows:

5> if the UE supports the capability to provide the GPS timing of the cell frames measurement:

6> if the IE "GPS timing of Cell wanted" is set to TRUE:

7> perform the UE GPS timing of cell frames measurement on the serving cell or on one cell of the active set.

7> include the IE "Primary CPICH Info" for FDD or the IE "cell parameters id" for TDD; and

7> include the IE "Reference SFN" and the IE "UE GPS timing of cell frames".

6> if the UE does not support the capability to provide the GPS timing of the cell; or

6> if the IE "GPS timing of Cell wanted" is set to FALSE:

7> include the IE "GPS TOW msec".

3> if the IE "Positioning Methods" is set to "OTDOA":

4> include the IE "UE positioning OTDOA measured results " in the measurement report and set the contents of the IE as follows:

5> set IE "SFN" to the SFN when the last measurement was performed;

5> if the UE supports the capability to perform the Rx-Tx time difference type 2 measurement:

6> if the UE is in CELL_DCH state:

7> if the measured value is equal to "1279.9375":

8> set the IE "Rx-Tx time difference type 2" in IE "UE positioning OTDOA measured results" for the reference cell to "1279.8750".

7> otherwise:

8> set the IE "Rx-Tx time difference type 2" in IE "UE positioning OTDOA measured results" for the reference cell to the measured value.

7> include the IE group "Rx-Tx time difference type 2 info" for the reference cell and for each neighbour cell listed in variable UE_POSITIONING_OTDOA_DATA_UE_ASSISTED that belongs to the active set.

5> if the UE does not support the capability to perform the Rx-Tx time difference type 2 measurement:

6> set the IE "Rx-Tx time difference type 2" in IE "UE positioning OTDOA measured results" for the reference cell to value "1279.9375" to indicate that the measurement is not supported.

4> include IE group "Neighbour" for all neighbour cells listed in variable UE_POSITIONING_OTDOA_DATA_UE_ASSISTED on which the SFN-SFN observed time difference type 2 measurement could be performed.

3> if IE "Positioning Methods" in the MEASUREMENT CONTROL message has been assigned to value "OTDOA or GPS":

4> the UE may choose to either act as if IE "Positioning Methods" is set to "GPS" or "OTDOA" depending on the method chosen by the UE.

3> if the IE "Positioning Methods" is set to "CELL ID":

4> if the UE supports the capability to perform the Rx-Tx time difference type 2 measurement; and

4> if the UE is in CELL_DCH state:

5> perform the Rx-Tx time difference type 2 measurement on the cells in the active set; and

5> report the measurement results back to the network in the MEASUREMENT REPORT by using IE "UE positioning OTDOA measured results" including measurements on the cells in the active set; and

5> in case the reference cell (indicated in the IE "UE positioning OTDOA assistance data") belongs to the active set of the UE:

6> report Rx-Tx time difference type 2 of the reference cell also.

5> in case the reference cell (indicated in the IE "UE positioning OTDOA assistance data") does not belong to the active set of the UE:

6> set the IE "Rx-Tx time difference type 2" in IE "UE positioning OTDOA measured results" for the reference cell to value "1279.9375".

5> for all reported cells:

6> set the IE "SFN-SFN observed time difference type 2" in IE "UE positioning OTDOA measured results" to value "0".

1> if the UE is not able to report the requested measurement results; or

1> if higher layers have indicated that the positioning request is not permitted; or

1> if the positioning request was not processed by higher layers and timed out:

2> include IE "UE positioning error" in the MEASUREMENT REPORT and set the contents of this IE as specified in subclause 8.6.7.19.5.

8.6.7.19.1b UE positioning reporting for UE based methods

The UE shall:

1> when a measurement report is triggered; and

1> if higher layers indicated that the positioning request is permitted:

2> if the UE has been able to calculate a position after performing measurements on the cells included in the variable UE_POSITIONING_OTDOA_DATA_UE_BASED in case of OTDOA or on the list of satellites included in the variable UE_POSITIONING_GPS_DATA in case of GPS positioning:

3> include IE "UE positioning Position Estimate Info" in the MEASUREMENT REPORT and set the contents of the IE as follows:

4> if the UE supports the capability to perform the UE GPS timing of cell frames measurement and UTRAN has requested to report the GPS timing of cell frames:

5> perform the UE GPS timing of cell frames measurement on the serving cell or on one cell of the active set.

5> include the IE "Primary CPICH Info" for FDD or the IE "cell parameters id" for TDD;

5> include the SFN when the position was determined;

5> include the IE "UE GPS timing of cell frames".

4> if the UE does not support the capability to perform the UE GPS timing of cell frames measurement; or

4> if the IE "GPS timing of Cell wanted" is set to FALSE:

5> include the IE "GPS TOW msec".

4> if IE "Vertical Accuracy" has been included in IE "UE positioning reporting quantity":

5> if the IE "Vertical Accuracy" has been assigned to value "0":

6> if the IE "Horizontal Accuracy" has been assigned a value "0":

7> may include IE "Ellipsoid point with altitude".

6> if the IE "Horizontal Accuracy" has been assigned a value unequal to "0"; and

6> if the UE has been able to calculate a 3-dimensional position

7> include IE "Ellipsoid point with altitude" or IE "Ellipsoid point with altitude and uncertainty ellipsoid" as the position estimate.

6> if the UE has not been able to calculate a 3-dimensional position:

7> may act as if IE "Vertical Accuracy" was not included in IE "UE positioning reporting quantity".

5> if the IE "Vertical Accuracy" has been assigned to a value unequal to "0":

6> if the UE has been able to calculate a 3-dimensional position:

7> include IE "Ellipsoid point with altitude and uncertainty ellipsoid" as the position estimate.

6> if the UE has not been able to calculate a 3-dimensional position:

7> act as if IE "Vertical Accuracy" has not been included in IE "UE positioning reporting quantity".

4> if IE "Vertical Accuracy" has not been included in IE "UE positioning reporting quantity":

5> if IE "Horizontal Accuracy" in IE "UE positioning reporting quantity" has been assigned to value "0":

6> may include IE "Ellipsoid point".

5> if IE "Horizontal Accuracy" in IE "UE positioning reporting quantity" has been assigned to a value unequal to 0:

6> include either IE "Ellipsoid point with uncertainty circle" or IE "Ellipsoid point with uncertainty ellipse" or IE "Ellipsoid point with altitude and uncertainty ellipsoid" as the position estimate.

1> if the UE was not able to calculate a position; or

1> if higher layers have indicated that the positioning request is not permitted; or

2> if the positioning request was not processed by higher layers and timed out:

3> include IE "UE positioning error" in the MEASUREMENT REPORT and set the contents of this IE as specified in subclause 8.6.7.19.5.

10.3.7.87 UE positioning Error

Information Element/Group name	Need	Multi	Type and Reference	Semantics description
Error reason	MP		Enumerated(ER1, ER2, ER3, ER4, ER5, ER6, ER7, ER8)	Note 1
GPS Additional Assistance Data Request	CV-*GPSdataMissing*~~OP~~		UE positioning GPS Additional Assistance Data Request 10.3.7.88a	

NOTE 1: The following table gives the mapping of the IE "Error reason".

Value	Indication
ER1	There were not enough cells to be received.
ER2	There were not enough GPS satellites to be received.
ER3	UE positioning GPS assistance data missing.
ER4	Undefined error.
ER5	UE positioning request denied by upper layers.
ER6	UE positioning request not processed by upper layers and timeout.
ER7	UE was not able to read the SFN of the reference cell.
ER8	UE was not able to accomplish the GPS timing of cell frames measurement.

Condition	Explanation
GPSdataMissing	The IE is optional if the IE "Error reason" is "ER3" and not needed otherwise.

3GPP TSG-RAN2 Meeting #36
Paris, France, 19th-23rd May 2003

Tdoc R2-031292

CR-Form-v7

CHANGE REQUEST

⌘ **25.331** **CR** **1912** ⌘ **rev** **-** ⌘ Current version: **4.9.0** ⌘

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Title:	⌘	Handling of UP Assistance Data		
Source:	⌘	RAN WG2		
Work item code:	⌘	TEI	***Date:*** ⌘	19-05-2003
Category:	⌘	**A**	***Release:*** ⌘	REL-4

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Rel-6	*(Release 6)*

Reason for change: ⌘

- **Point 1: Updating the variables UE_POSITIONING_GPS_DATA and MEASUREMENT_IDENTITY**

In section 8.4.1.3 it is specified that at the reception of a MEASUREMENT CONTROL "modify", for UE Positioning measurement, the UE shall replace all the assistance data stored in the variable MEASUREMENT_IDENTITY with the one received in the MEASREMNT CONTROL message. In section 8.6.7.19.3 it is specified the behaviour of the UE when GPS assistance data is received, i.e. the UE shall update its variable UE_POSITIONING_GPS_DATA. It should be noted that the UE may receive assistance data by means of three different mechanisms, i.e. via System Information broadcast, via ASSISTANCE DATA DELIVERY (triggered by a UE request to CN via NAS for GPS assistance data) or via MEASUREMENT CONTROL when a UP measurement is setup in the UE. For all IEs of GPS assistance data except Almanac and Navigation Model (i.e. Ephemeris and Clock corrections) the UE shall replace the existing information in its variable with the new received information. The update for Almanac or Navigation model is done per satellite basis adding new information for a new satellite possibly overwriting existing information. The consequence of this different handling the assistance data in the variable UE_POSITIONING_GPS_DATA and the assistance data in the variable MEASUREMENT_IDENTITY may be different. In particular the list of satellites in the two variables may be different. When a UP measurement is setup, in the current specification it is ambiguous whether the UE shall consider for measurement the information (e.g. the list of satellites) in the UE_POSITIONING_GPS_DATA or MEASUREMENT_IDENTITY.

- **Point 2: Deletion of UE_POSITIONING_GPS_DATA at transition from CELL_DCH to CELL_FACH**

In section 8.4.1.6.7 it is specified that when the UE transits from CELL_DCH to CELL_FACH in which is not a priori known by UTRAN the UE shall remove the data

	from the variable UE_POSITIONING_GPS_DATA. The reason for this requirement was that some of the assistance data is in the cell scope and therefore the UE shall obtain information valid in the reselected cell. However the biggest part of the assistance data (e.g. information in SIB15.3 is PLMN scope but also a part of the Ephemeris) are in a wider scope than a cell and therefore there is no need to remove the data from the UE.
Summary of change: ⌘	• **Point 1** It is proposed that the UE shall measure the satellites in the variable UE_POSITIONING_GPS_DATA. A clarification is added in section 8.6.7.19.1a and section 8.6.7.19.1b. • **Point 2** It is proposed that we remove the requirement to delete the assistance data and rely on the UE to maintain valid data. In the section 10.3.7.87 it is clarified that the IE "GPS Additional Assistance data Request" may be included only when the error reason is "UE positioning GPS assistance data missing" as specified in section 8.6.7.19.5.
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Clauses affected:	⌘	8.4.1.6.7, 8.6.7.19.1a, 8.6.7.19.1b, 10.3.7.87			
Other specs affected:	⌘	**Y**	**N**		
			X	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

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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.

8.4.1.6.7 UE positioning measurement

Upon transition from CELL_DCH to CELL_PCH or URA_PCH, the UE shall:

1> if the UE does not support UP measurement validity in CELL_PCH and URA_PCH states as indicated in the IE "UE positioning capability" included in the IE "UE Radio Access Capability":

2> stop UE positioning measurement reporting.

Upon transition from CELL_DCH to CELL_FACH, or upon transition from CELL_DCH to CELL_PCH or URA_PCH and if the UE supports UP measurement validity in CELL_PCH and URA_PCH states as indicated in the IE "UE positioning capability" included in the IE "UE Radio Access Capability", the UE shall:

1> retrieve each set of measurement control information of measurement type "UE positioning" stored in the variable MEASUREMENT_IDENTITY; and

2> if the optional IE "measurement validity" for this measurement has not been included:

3> delete the measurement associated with the variable MEASUREMENT_IDENTITY.

2> if the IE "measurement validity" for the measurement has been included, and the IE "UE state" has been assigned to value "CELL_DCH":

3> stop measurement reporting;

3> store the measurement associated with the variable MEASUREMENT_IDENTITY to be used after the next transition to CELL_DCH state.

2> if the IE "measurement validity" for the measurement has been included, and the IE "UE state" has been assigned to value "all states":

3> upon transition from CELL_DCH to CELL_PCH or URA_PCH:

4> if the choice in the IE "Reporting Criteria" included the IE "UE Positioning" stored in the variable MEASUREMENT_IDENTITY is set to "UE positioning reporting criteria" and the value of the IE "Measurement interval" included in this IE is less than 64 seconds:

5> consider the value of the IE "Measurement interval " as being 64 seconds;

4> if the choice in the IE "Reporting Criteria" included the IE "UE Positioning" stored in the variable MEASUREMENT_IDENTITY is set to "Periodical Reporting Criteria" and the value of the IE "Reporting interval" included in this IE is less than 64 seconds:

5> consider the value of the IE "Reporting Interval" as being 64 seconds

3> continue measurement reporting according to its UE positioning measurement reporting capability..

2> if the IE "measurement validity" has been included and the IE "UE state" has been assigned to value "all states except CELL_DCH":

3> upon transition from CELL_DCH to CELL_PCH or URA_PCH:

4> if the choice in the IE "Reporting Criteria" included the IE "UE Positioning" stored in the variable MEASUREMENT_IDENTITY is set to "UE positioning reporting criteria" and the value of the IE "Measurement interval " included in this IE is less than 64 seconds:

5> consider the value of the IE "Measurement interval " as being 64 seconds.

4> if the choice in the IE "Reporting Criteria" included the IE "UE Positioning" stored in the variable MEASUREMENT_IDENTITY is set to "Periodical Reporting Criteria" and the value of the IE "Reporting interval" included in this IE is less than 64 seconds:

5> consider the value of the IE "Reporting Interval" as being 64 seconds.

3> resume this measurement and associated reporting according to its UE Positioning measurement reporting capability.

1> if the transition is due to a reconfiguration message which included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selects a cell other than that indicated by this IE; or

1> if the transition is due to a reconfiguration message which does not include the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD); or

1> if the transition is not due to a reconfiguration message:

2> delete the assistance data included in the variable UE_POSITIONING_OTDOA_DATA_UE_BASED and~~,~~ UE_POSITIONING_OTDOA_DATA_UE_ASSISTED~~ and UE_POSITIONING_GPS_DATA~~.

1> if the IE "Positioning Methods" stored in the variable MEASUREMENT_IDENTITY is set to "OTDOA" or "OTDOA or GPS":

2> if the IE "Method type" stored in the variable MEASUREMENT_IDENTITY is set to "UE-based" or "UE assisted preferred but UE-based allowed" or "UE-based preferred but UE-assisted allowed":

3> begin monitoring assistance data received in System Information Block type 15.4 and System Information Block type 15.5 according to subclause 8.1.1.6.15.

2> if the IE "Method type" stored in the variable MEASUREMENT_IDENTITY is set to "UE-assisted":

3> begin monitoring assistance data received in System Information Block type 15.4 according to subclause 8.1.1.6.15.

1> if the UE is in CELL_FACH state:

2> if the IE "UE positioning OTDOA neighbour cell list for UE assisted" stored in the variable UE_POSITIONING_OTDOA_DATA_UE_ASSISTED or UE_POSITIONING_OTDOA_DATA_UE_BASED contains neighbour cells on other frequencies than the current frequency:

3> perform measurements on other frequencies according to the IE "FACH measurement occasion info".

The UE may:

1> if the IE "Positioning Methods" stored in the variable MEASUREMENT_IDENTITY is set to "GPS" or "OTDOA or GPS":

2> begin monitoring assistance data received in System Information Block type 15 and/or System Information Block type 15.1 and/or System Information Block type 15.2 and/or System Information Block type 15.3 according to subclause 8.1.1.6.15.

8.6.7.19.1a UE positioning reporting for UE assisted methods

The UE shall:

1> when a measurement report is triggered; and

1> if higher layers indicated that the positioning request is permitted:

2> if the UE was able to perform measurements on at least one neighbour cell included in the variable UE_POSITIONING_OTDOA_DATA_UE_ASSISTED in case of OTDOA or one satellite included in the variable UE_POSITIONING_GPS_DATA in case of GPS positioning:

3> if the IE "Vertical Accuracy" is included:

4> interpret the presence of this IE to indicate that the UTRAN desires to compute a 3-dimensional position estimate.

3> if the IE "Positioning Methods" is set to "GPS":

4> include the IE "UE positioning GPS measured results" in the measurement report and set the contents of the IE as follows:

5> if the UE supports the capability to provide the GPS timing of the cell frames measurement:

6> if the IE "GPS timing of Cell wanted" is set to TRUE:

7> perform the UE GPS timing of cell frames measurement on the serving cell or on one cell of the active set.

7> include the IE "Primary CPICH Info" for FDD or the IE "cell parameters id" for TDD; and

7> include the IE "Reference SFN" and the IE "UE GPS timing of cell frames".

6> if the UE does not support the capability to provide the GPS timing of the cell; or

6> if the IE "GPS timing of Cell wanted" is set to FALSE:

7> include the IE "GPS TOW msec".

3> if the IE "Positioning Methods" is set to "OTDOA":

4> include the IE "UE positioning OTDOA measured results " in the measurement report and set the contents of the IE as follows:

5> set IE "SFN" to the SFN when the last measurement was performed;

5> if the UE supports the capability to perform the Rx-Tx time difference type 2 measurement:

6> if the UE is in CELL_DCH state:

7> if the measured value is equal to "1279.9375":

8> set the IE "Rx-Tx time difference type 2" in IE "UE positioning OTDOA measured results" for the reference cell to "1279.8750".

7> otherwise:

8> set the IE "Rx-Tx time difference type 2" in IE "UE positioning OTDOA measured results" for the reference cell to the measured value.

7> include the IE group "Rx-Tx time difference type 2 info" for the reference cell and for each neighbour cell listed in variable UE_POSITIONING_OTDOA_DATA_UE_ASSISTED that belongs to the active set.

5> if the UE does not support the capability to perform the Rx-Tx time difference type 2 measurement:

6> set the IE "Rx-Tx time difference type 2" in IE "UE positioning OTDOA measured results" for the reference cell to value "1279.9375" to indicate that the measurement is not supported.

4> include IE group "Neighbour" for all neighbour cells listed in variable UE_POSITIONING_OTDOA_DATA_UE_ASSISTED on which the SFN-SFN observed time difference type 2 measurement could be performed.

3> if IE "Positioning Methods" in the MEASUREMENT CONTROL message has been assigned to value "OTDOA or GPS":

4> the UE may choose to either act as if IE "Positioning Methods" is set to "GPS" or "OTDOA" depending on the method chosen by the UE.

3> if the IE "Positioning Methods" is set to "CELL ID":

4> if the UE supports the capability to perform the Rx-Tx time difference type 2 measurement; and

4> if the UE is in CELL_DCH state:

5> perform the Rx-Tx time difference type 2 measurement on the cells in the active set; and

5> report the measurement results back to the network in the MEASUREMENT REPORT by using IE "UE positioning OTDOA measured results" including measurements on the cells in the active set; and

5> in case the reference cell (indicated in the IE "UE positioning OTDOA assistance data") belongs to the active set of the UE:

6> report Rx-Tx time difference type 2 of the reference cell also.

5> in case the reference cell (indicated in the IE "UE positioning OTDOA assistance data") does not belong to the active set of the UE:

6> set the IE "Rx-Tx time difference type 2" in IE "UE positioning OTDOA measured results" for the reference cell to value "1279.9375".

5> for all reported cells:

6> set the IE "SFN-SFN observed time difference type 2" in IE "UE positioning OTDOA measured results" to value "0".

1> if the UE is not able to report the requested measurement results; or

1> if higher layers have indicated that the positioning request is not permitted; or

1> if the positioning request was not processed by higher layers and timed out:

2> include IE "UE positioning error" in the MEASUREMENT REPORT and set the contents of this IE as specified in subclause 8.6.7.19.5.

8.6.7.19.1b UE positioning reporting for UE based methods

The UE shall:

1> when a measurement report is triggered; and

1> if higher layers indicated that the positioning request is permitted:

2> if the UE has been able to calculate a position after performing measurements on the cells included in the variable UE_POSITIONING_OTDOA_DATA_UE_BASED in case of OTDOA or on the list of satellites included in the variable UE_POSITIONING_GPS_DATA in case of GPS positioning:

3> include IE "UE positioning Position Estimate Info" in the MEASUREMENT REPORT and set the contents of the IE as follows:

4> if the UE supports the capability to perform the UE GPS timing of cell frames measurement and UTRAN has requested to report the GPS timing of cell frames:

5> perform the UE GPS timing of cell frames measurement on the serving cell or on one cell of the active set.

5> include the IE "Primary CPICH Info" for FDD or the IE "cell parameters id" for TDD;

5> include the SFN when the position was determined;

5> include the IE "UE GPS timing of cell frames".

4> if the UE does not support the capability to perform the UE GPS timing of cell frames measurement; or

4> if the IE "GPS timing of Cell wanted" is set to FALSE:

5> include the IE "GPS TOW msec".

4> if IE "Vertical Accuracy" has been included in IE "UE positioning reporting quantity":

5> if the IE "Vertical Accuracy" has been assigned to value "0":

6> if the IE "Horizontal Accuracy" has been assigned a value "0":

7> may include IE "Ellipsoid point with altitude".

6> if the IE "Horizontal Accuracy" has been assigned a value unequal to "0"; and

6> if the UE has been able to calculate a 3-dimensional position

7> include IE "Ellipsoid point with altitude" or IE "Ellipsoid point with altitude and uncertainty ellipsoid" as the position estimate.

6> if the UE has not been able to calculate a 3-dimensional position:

7> may act as if IE "Vertical Accuracy" was not included in IE "UE positioning reporting quantity".

5> if the IE "Vertical Accuracy" has been assigned to a value unequal to "0":

6> if the UE has been able to calculate a 3-dimensional position:

7> include IE "Ellipsoid point with altitude and uncertainty ellipsoid" as the position estimate.

6> if the UE has not been able to calculate a 3-dimensional position:

7> act as if IE "Vertical Accuracy" has not been included in IE "UE positioning reporting quantity".

4> if IE "Vertical Accuracy" has not been included in IE "UE positioning reporting quantity":

5> if IE "Horizontal Accuracy" in IE "UE positioning reporting quantity" has been assigned to value "0":

6> may include IE "Ellipsoid point".

5> if IE "Horizontal Accuracy" in IE "UE positioning reporting quantity" has been assigned to a value unequal to 0:

6> include either IE "Ellipsoid point with uncertainty circle" or IE "Ellipsoid point with uncertainty ellipse" or IE "Ellipsoid point with altitude and uncertainty ellipsoid" as the position estimate.

1> if the UE was not able to calculate a position; or

1> if higher layers have indicated that the positioning request is not permitted; or

2> if the positioning request was not processed by higher layers and timed out:

3> include IE "UE positioning error" in the MEASUREMENT REPORT and set the contents of this IE as specified in subclause 8.6.7.19.5.

10.3.7.87 UE positioning Error

Information Element/Group name	Need	Multi	Type and Reference	Semantics description
Error reason	MP		Enumerated(ER1, ER2, ER3, ER4, ER5, ER6, ER7, ER8)	Note 1
GPS Additional Assistance Data Request	CV-*GPSdataMissing*~~OP~~		UE positioning GPS Additional Assistance Data Request 10.3.7.88a	

NOTE 1: The following table gives the mapping of the IE "Error reason".

Value	Indication
ER1	There were not enough cells to be received.
ER2	There were not enough GPS satellites to be received.
ER3	UE positioning GPS assistance data missing.
ER4	Undefined error.
ER5	UE positioning request denied by upper layers.
ER6	UE positioning request not processed by upper layers and timeout.
ER7	UE was not able to read the SFN of the reference cell.
ER8	UE was not able to accomplish the GPS timing of cell frames measurement.

Condition	**Explanation**
GPSdataMissing	The IE is optional if the IE "Error reason" is "ER3" and not needed otherwise.

3GPP TSG-RAN2 Meeting #36
Paris, France, 19th-23rd May 2003

Tdoc R2-031293

CR-Form-v7

CHANGE REQUEST

⌘ **25.331** **CR** **1913** ⌘ **rev** **-** ⌘ Current version: **5.4.0** ⌘

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

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

Title:	⌘	Handling of UP Assistance Data		
Source:	⌘	RAN WG2		
Work item code:	⌘	TEI	***Date:*** ⌘	19-05-2003
Category:	⌘	**A**	***Release:*** ⌘	REL-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

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

Reason for change: ⌘

- **Point 1: Updating the variables UE_POSITIONING_GPS_DATA and MEASUREMENT_IDENTITY**

In section 8.4.1.3 it is specified that at the reception of a MEASUREMENT CONTROL "modify", for UE Positioning measurement, the UE shall replace all the assistance data stored in the variable MEASUREMENT_IDENTITY with the one received in the MEASREMNT CONTROL message. In section 8.6.7.19.3 it is specified the behaviour of the UE when GPS assistance data is received, i.e. the UE shall update its variable UE_POSITIONING_GPS_DATA. It should be noted that the UE may receive assistance data by means of three different mechanisms, i.e. via System Information broadcast, via ASSISTANCE DATA DELIVERY (triggered by a UE request to CN via NAS for GPS assistance data) or via MEASUREMENT CONTROL when a UP measurement is setup in the UE. For all IEs of GPS assistance data except Almanac and Navigation Model (i.e. Ephemeris and Clock corrections) the UE shall replace the existing information in its variable with the new received information. The update for Almanac or Navigation model is done per satellite basis adding new information for a new satellite possibly overwriting existing information. The consequence of this different handling the assistance data in the variable UE_POSITIONING_GPS_DATA and the assistance data in the variable MEASUREMENT_IDENTITY may be different. In particular the list of satellites in the two variables may be different. When a UP measurement is setup, in the current specification it is ambiguous whether the UE shall consider for measurement the information (e.g. the list of satellites) in the UE_POSITIONING_GPS_DATA or MEASUREMENT_IDENTITY.

- **Point 2: Deletion of UE_POSITIONING_GPS_DATA at transition from CELL_DCH to CELL_FACH**

In section 8.4.1.6.7 it is specified that when the UE transits from CELL_DCH to CELL_FACH in which is not a priori known by UTRAN the UE shall remove the data

	from the variable UE_POSITIONING_GPS_DATA. The reason for this requirement was that some of the assistance data is in the cell scope and therefore the UE shall obtain information valid in the reselected cell. However the biggest part of the assistance data (e.g. information in SIB15.3 is PLMN scope but also a part of the Ephemeris) are in a wider scope than a cell and therefore there is no need to remove the data from the UE.
Summary of change: ⌘	• **Point 1** It is proposed that the UE shall measure the satellites in the variable UE_POSITIONING_GPS_DATA. A clarification is added in section 8.6.7.19.1a and section 8.6.7.19.1b. • **Point 2** It is proposed that we remove the requirement to delete the assistance data and rely on the UE to maintain valid data. In the section 10.3.7.87 it is clarified that the IE "GPS Additional Assistance data Request" may be included only when the error reason is "UE positioning GPS assistance data missing" as specified in section 8.6.7.19.5.
Consequences if not approved: ⌘	**If the UE does not implement the CR:** it is possible that the UE has not valid (or up to date) assistance data to perform the requested UP measurements. Therefore UE Positioning reports may experience an unacceptable delay or be inaccurate. In the scenario where UE is in CELL_DCH (or in CELL_FACH and GPS assistance data is not sent over the system information broadcast in the cell) if the UE does not use the satellite list in the variable UE_POSITIONING_GPS_DATA it may request UTRAN for additionally assistance data which will force UTRAN to send more GPS assistance data leading to an unnecessary increase of DL signalling (it should be noted that SRB2 is blocked for other RRC messages while the assistance data is delivered) and delay the UP location report. If the UE removes the assistance data from the variable UE_POSITIONING_GPS_DATA at transition from CELL_DCH to CELL_FACH this will lead to unnecessary UE actions to read System Information or request UTRAN for assistance data in order to perform the requested measurements..

Clauses affected:	⌘	8.4.1.6.7, 8.6.7.19.1a, 8.6.7.19.1b, 10.3.7.87			
Other specs affected:	⌘	**Y**	**N**		
			X	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

How to create CRs using this form:

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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.

8.4.1.6.7 UE positioning measurement

Upon transition from CELL_DCH to CELL_PCH or URA_PCH, the UE shall:

1> if the UE does not support UP measurement validity in CELL_PCH and URA_PCH states as indicated in the IE "UE positioning capability" included in the IE "UE Radio Access Capability":

2> stop UE positioning measurement reporting.

Upon transition from CELL_DCH to CELL_FACH, or upon transition from CELL_DCH to CELL_PCH or URA_PCH and if the UE supports UP measurement validity in CELL_PCH and URA_PCH states as indicated in the IE "UE positioning capability" included in the IE "UE Radio Access Capability", the UE shall:

1> retrieve each set of measurement control information of measurement type "UE positioning" stored in the variable MEASUREMENT_IDENTITY; and

2> if the optional IE "measurement validity" for this measurement has not been included:

3> delete the measurement associated with the variable MEASUREMENT_IDENTITY.

2> if the IE "measurement validity" for the measurement has been included, and the IE "UE state" has been assigned to value "CELL_DCH":

3> stop measurement reporting;

3> store the measurement associated with the variable MEASUREMENT_IDENTITY to be used after the next transition to CELL_DCH state.

2> if the IE "measurement validity" for the measurement has been included, and the IE "UE state" has been assigned to value "all states":

3> upon transition from CELL_DCH to CELL_PCH or URA_PCH:

4> if the choice in the IE "Reporting Criteria" included the IE "UE Positioning" stored in the variable MEASUREMENT_IDENTITY is set to "UE positioning reporting criteria" and the value of the IE "Measurement interval" included in this IE is less than 64 seconds:

5> consider the value of the IE "Measurement interval " as being 64 seconds;

4> if the choice in the IE "Reporting Criteria" included the IE "UE Positioning" stored in the variable MEASUREMENT_IDENTITY is set to "Periodical Reporting Criteria" and the value of the IE "Reporting interval" included in this IE is less than 64 seconds:

5> consider the value of the IE "Reporting Interval" as being 64 seconds

3> continue measurement reporting according to its UE positioning measurement reporting capability..

2> if the IE "measurement validity" has been included and the IE "UE state" has been assigned to value "all states except CELL_DCH":

3> upon transition from CELL_DCH to CELL_PCH or URA_PCH:

4> if the choice in the IE "Reporting Criteria" included the IE "UE Positioning" stored in the variable MEASUREMENT_IDENTITY is set to "UE positioning reporting criteria" and the value of the IE "Measurement interval " included in this IE is less than 64 seconds:

5> consider the value of the IE "Measurement interval " as being 64 seconds.

4> if the choice in the IE "Reporting Criteria" included the IE "UE Positioning" stored in the variable MEASUREMENT_IDENTITY is set to "Periodical Reporting Criteria" and the value of the IE "Reporting interval" included in this IE is less than 64 seconds:

5> consider the value of the IE "Reporting Interval" as being 64 seconds.

3> resume this measurement and associated reporting according to its UE Positioning measurement reporting capability.

1> if the transition is due to a reconfiguration message which included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selects a cell other than that indicated by this IE; or

1> if the transition is due to a reconfiguration message which does not include the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD); or

1> if the transition is not due to a reconfiguration message:

2> delete the assistance data included in the variable UE_POSITIONING_OTDOA_DATA_UE_BASED and~~,~~ UE_POSITIONING_OTDOA_DATA_UE_ASSISTED~~ and UE_POSITIONING_GPS_DATA~~.

1> if the IE "Positioning Methods" stored in the variable MEASUREMENT_IDENTITY is set to "OTDOA" or "OTDOA or GPS":

2> if the IE "Method type" stored in the variable MEASUREMENT_IDENTITY is set to "UE-based" or "UE assisted preferred but UE-based allowed" or "UE-based preferred but UE-assisted allowed":

3> begin monitoring assistance data received in System Information Block type 15.4 and System Information Block type 15.5 according to subclause 8.1.1.6.15.

2> if the IE "Method type" stored in the variable MEASUREMENT_IDENTITY is set to "UE-assisted":

3> begin monitoring assistance data received in System Information Block type 15.4 according to subclause 8.1.1.6.15.

1> if the UE is in CELL_FACH state:

2> if the IE "UE positioning OTDOA neighbour cell list for UE assisted" stored in the variable UE_POSITIONING_OTDOA_DATA_UE_ASSISTED or UE_POSITIONING_OTDOA_DATA_UE_BASED contains neighbour cells on other frequencies than the current frequency:

3> perform measurements on other frequencies according to the IE "FACH measurement occasion info".

The UE may:

1> if the IE "Positioning Methods" stored in the variable MEASUREMENT_IDENTITY is set to "GPS" or "OTDOA or GPS":

2> begin monitoring assistance data received in System Information Block type 15 and/or System Information Block type 15.1 and/or System Information Block type 15.2 and/or System Information Block type 15.3 according to subclause 8.1.1.6.15.

8.6.7.19.1a UE positioning reporting for UE assisted methods

The UE shall:

1> when a measurement report is triggered; and

1> if higher layers indicated that the positioning request is permitted:

2> if the UE was able to perform measurements on at least one neighbour cell included in the variable UE_POSITIONING_OTDOA_DATA_UE_ASSISTED in case of OTDOA or one satellite included in the variable UE_POSITIONING_GPS_DATA in case of GPS positioning:

3> if the IE "Vertical Accuracy" is included:

4> interpret the presence of this IE to indicate that the UTRAN desires to compute a 3-dimensional position estimate.

3> if the IE "Positioning Methods" is set to "GPS":

4> include the IE "UE positioning GPS measured results" in the measurement report and set the contents of the IE as follows:

5> if the UE supports the capability to provide the GPS timing of the cell frames measurement:

6> if the IE "GPS timing of Cell wanted" is set to TRUE:

7> perform the UE GPS timing of cell frames measurement on the serving cell or on one cell of the active set.

7> include the IE "Primary CPICH Info" for FDD or the IE "cell parameters id" for TDD; and

7> include the IE "Reference SFN" and the IE "UE GPS timing of cell frames".

6> if the UE does not support the capability to provide the GPS timing of the cell; or

6> if the IE "GPS timing of Cell wanted" is set to FALSE:

7> include the IE "GPS TOW msec".

3> if the IE "Positioning Methods" is set to "OTDOA":

4> include the IE "UE positioning OTDOA measured results " in the measurement report and set the contents of the IE as follows:

5> set IE "SFN" to the SFN when the last measurement was performed;

5> if the UE supports the capability to perform the Rx-Tx time difference type 2 measurement:

6> if the UE is in CELL_DCH state:

7> if the measured value is equal to "1279.9375":

8> set the IE "Rx-Tx time difference type 2" in IE "UE positioning OTDOA measured results" for the reference cell to "1279.8750".

7> otherwise:

8> set the IE "Rx-Tx time difference type 2" in IE "UE positioning OTDOA measured results" for the reference cell to the measured value.

7> include the IE group "Rx-Tx time difference type 2 info" for the reference cell and for each neighbour cell listed in variable UE_POSITIONING_OTDOA_DATA_UE_ASSISTED that belongs to the active set.

5> if the UE does not support the capability to perform the Rx-Tx time difference type 2 measurement:

6> set the IE "Rx-Tx time difference type 2" in IE "UE positioning OTDOA measured results" for the reference cell to value "1279.9375" to indicate that the measurement is not supported.

4> include IE group "Neighbour" for all neighbour cells listed in variable UE_POSITIONING_OTDOA_DATA_UE_ASSISTED on which the SFN-SFN observed time difference type 2 measurement could be performed.

3> if IE "Positioning Methods" in the MEASUREMENT CONTROL message has been assigned to value "OTDOA or GPS":

4> the UE may choose to either act as if IE "Positioning Methods" is set to "GPS" or "OTDOA" depending on the method chosen by the UE.

3> if the IE "Positioning Methods" is set to "CELL ID":

4> if the UE supports the capability to perform the Rx-Tx time difference type 2 measurement; and

4> if the UE is in CELL_DCH state:

5> perform the Rx-Tx time difference type 2 measurement on the cells in the active set; and

5> report the measurement results back to the network in the MEASUREMENT REPORT by using IE "UE positioning OTDOA measured results" including measurements on the cells in the active set; and

5> in case the reference cell (indicated in the IE "UE positioning OTDOA assistance data") belongs to the active set of the UE:

6> report Rx-Tx time difference type 2 of the reference cell also.

5> in case the reference cell (indicated in the IE "UE positioning OTDOA assistance data") does not belong to the active set of the UE:

6> set the IE "Rx-Tx time difference type 2" in IE "UE positioning OTDOA measured results" for the reference cell to value "1279.9375".

5> for all reported cells:

6> set the IE "SFN-SFN observed time difference type 2" in IE "UE positioning OTDOA measured results" to value "0".

1> if the UE is not able to report the requested measurement results; or

1> if higher layers have indicated that the positioning request is not permitted; or

1> if the positioning request was not processed by higher layers and timed out:

2> include IE "UE positioning error" in the MEASUREMENT REPORT and set the contents of this IE as specified in subclause 8.6.7.19.5.

8.6.7.19.1b UE positioning reporting for UE based methods

The UE shall:

1> when a measurement report is triggered; and

1> if higher layers indicated that the positioning request is permitted:

2> if the UE has been able to calculate a position after performing measurements on the cells included in the variable UE_POSITIONING_OTDOA_DATA_UE_BASED in case of OTDOA or on the list of satellites included in the variable UE_POSITIONING_GPS_DATA in case of GPS positioning:

3> include IE "UE positioning Position Estimate Info" in the MEASUREMENT REPORT and set the contents of the IE as follows:

4> if the UE supports the capability to perform the UE GPS timing of cell frames measurement and UTRAN has requested to report the GPS timing of cell frames:

5> perform the UE GPS timing of cell frames measurement on the serving cell or on one cell of the active set.

5> include the IE "Primary CPICH Info" for FDD or the IE "cell parameters id" for TDD;

5> include the SFN when the position was determined;

5> include the IE "UE GPS timing of cell frames".

4> if the UE does not support the capability to perform the UE GPS timing of cell frames measurement; or

4> if the IE "GPS timing of Cell wanted" is set to FALSE:

5> include the IE "GPS TOW msec".

4> if IE "Vertical Accuracy" has been included in IE "UE positioning reporting quantity":

5> if the IE "Vertical Accuracy" has been assigned to value "0":

6> if the IE "Horizontal Accuracy" has been assigned a value "0":

7> may include IE "Ellipsoid point with altitude".

6> if the IE "Horizontal Accuracy" has been assigned a value unequal to "0"; and

6> if the UE has been able to calculate a 3-dimensional position

7> include IE "Ellipsoid point with altitude" or IE "Ellipsoid point with altitude and uncertainty ellipsoid" as the position estimate.

6> if the UE has not been able to calculate a 3-dimensional position:

7> may act as if IE "Vertical Accuracy" was not included in IE "UE positioning reporting quantity".

5> if the IE "Vertical Accuracy" has been assigned to a value unequal to "0":

6> if the UE has been able to calculate a 3-dimensional position:

7> include IE "Ellipsoid point with altitude and uncertainty ellipsoid" as the position estimate.

6> if the UE has not been able to calculate a 3-dimensional position:

7> act as if IE "Vertical Accuracy" has not been included in IE "UE positioning reporting quantity".

4> if IE "Vertical Accuracy" has not been included in IE "UE positioning reporting quantity":

5> if IE "Horizontal Accuracy" in IE "UE positioning reporting quantity" has been assigned to value "0":

6> may include IE "Ellipsoid point".

5> if IE "Horizontal Accuracy" in IE "UE positioning reporting quantity" has been assigned to a value unequal to 0:

6> include either IE "Ellipsoid point with uncertainty circle" or IE "Ellipsoid point with uncertainty ellipse" or IE "Ellipsoid point with altitude and uncertainty ellipsoid" as the position estimate.

1> if the UE was not able to calculate a position; or

1> if higher layers have indicated that the positioning request is not permitted; or

2> if the positioning request was not processed by higher layers and timed out:

3> include IE "UE positioning error" in the MEASUREMENT REPORT and set the contents of this IE as specified in subclause 8.6.7.19.5.

10.3.7.87 UE positioning Error

Information Element/Group name	Need	Multi	Type and Reference	Semantics description
Error reason	MP		Enumerated(ER1, ER2, ER3, ER4, ER5, ER6, ER7, ER8)	Note 1
GPS Additional Assistance Data Request	CV-*GPSdataMissing*~~OP~~		UE positioning GPS Additional Assistance Data Request 10.3.7.88a	

NOTE 1: The following table gives the mapping of the IE "Error reason".

Value	Indication
ER1	There were not enough cells to be received.
ER2	There were not enough GPS satellites to be received.
ER3	UE positioning GPS assistance data missing.
ER4	Undefined error.
ER5	UE positioning request denied by upper layers.
ER6	UE positioning request not processed by upper layers and timeout.
ER7	UE was not able to read the SFN of the reference cell.
ER8	UE was not able to accomplish the GPS timing of cell frames measurement.

Condition	**Explanation**
GPSdataMissing	The IE is optional if the IE "Error reason" is "ER3" and not needed otherwise.

3GPP TSG-RAN2 Meeting #36
Paris, France, 19-23 May, 2003

Tdoc ⌘R2-031433

CR-Form-v7

CHANGE REQUEST

⌘ **25.331** **CR** **1914** ⌘**rev** **1** ⌘ Current version: **3.14.0** ⌘

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

Proposed change affects: UICC apps⌘ [ ] ME [X] Radio Access Network [X] Core Network [ ]

Title:	⌘	Concerns on Procedures for Cell-ID Positioning Method
Source:	⌘	RAN WG2
Work item code:	⌘	TEI
Date:	⌘	19 May 2003
Category:	⌘	**F**
Release:	⌘	R99

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

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

Reason for change: ⌘

Currently, a UTRAN request for a UE to report Cell-ID measurements (i.e., UE Rx-Tx time difference type2) must include assistance data that is corresponding only to the OTDOA method. However, a UE is capable of making and reporting these Cell-ID measurements for the cells in its active set without such OTDOA reference cell info being present. Thus, unnecessary requirements are placed upon both the UTRAN and UE related to including and then checking for the presence of this OTDOA reference cell info assistance data.

Furthermore, the resulting interdependency between the UE Rx-Tx time difference type 2 measurement reporting behaviour for Cell-ID positioning and the OTDOA reference cell info assistance introduces additional unnecessary reporting requirements into the specification.

Summary of change: ⌘

In clause 8.6.7.19.2, the requirement for UE consistency checking for OTDOA reference cell info assistance is removed for the case of Cell-ID positioning method.

In clause 8.6.7.19.1a, the Cell-ID measurement reporting procedure is modified as follows:
- UE designates one of the cells of the active set to serve as the “reference cell” for reporting purposes
- Requirements for checking inclusion of reference cell in active set is removed
- Clarified for reported neighbour cells that SFN-SFN type 2 measurements and corresponding quality values are both set to “0”

Note that tabular description of IE “UE positioning OTDOA measured results” (clause 10.3.7.105) and corresponding ASN.1 description remain unchanged.

		Isolated Impact Change Analysis. This change is limited to the functionality for UE receiving requests and reporting measured results for Cell-ID positioning method. It would not affect implementations behaving like indicated in the CR, it would affect implementations supporting the corrected functionality otherwise. **Impact on Test specifications** There is no impact on the test specifications.
Consequences if not approved:	⌘	Unnecessary requirements for UTRAN and UE related to including and then checking for the presence of OTDOA reference cell info assistance data remain for Cell-ID positioning method. In addition, unnecessary reporting requirements for Cell-ID positioning measurement results remain. Furthermore, several unnecessary test cases must eventually be created for UE consistency checking of OTDOA reference cell info and for UE reporting of Cell-ID positioning results.

Clauses affected:	⌘	8.6.7.19.1a, 8.6.7.19.2			
		Y	**N**		
Other specs affected:	⌘		**X**	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘	Modifications specific to rev_1 of this CR (1914) are shaded in yellow.			

How to create CRs using this form:

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

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.
3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

< ***NEXT MODIFIED SECTION*** >

[…]

8.6.7.19.1a UE positioning reporting for UE assisted methods

The UE shall:

1> when a measurement report is triggered; and

1> if higher layers indicated that the positioning request is permitted:

2> if the UE was able to perform measurements on at least one neighbour cell in case of OTDOA or one satellite in case of GPS positioning:

[…]

3> if the IE "Positioning Methods" is set to "GPS":

[…]

3> if the IE "Positioning Methods" is set to "OTDOA":

[…]

3> if the IE "Positioning Methods" is set to "CELL ID":

4> if the UE supports the capability to perform the Rx-Tx time difference type 2 measurement; and

4> if the UE is in CELL_DCH state:

5> perform the Rx-Tx time difference type 2 measurement on the cells in the active set; and

5> report the measurement results back to the network in the MEASUREMENT REPORT by using IE "UE positioning OTDOA measured results" including measurements on the cells in the active set; and

~~5> in case the reference cell (indicated in the IE "UE positioning OTDOA assistance data") belongs to the active set of the UE:~~

5>~~6>~~ report Rx-Tx time difference type 2 measurement of the reference cell (as designated by the UE); and~~also.~~

~~5> in case the reference cell (indicated in the IE "UE positioning OTDOA assistance data") does not belong to the active set of the UE:~~

~~6> set the IE "Rx-Tx time difference type 2" in IE "UE positioning OTDOA measured results" for the reference cell to value "1279.9375".~~

5> ~~5>~~ for all reported neighbour cells:

6> report Rx-Tx time difference type 2 measurement; and

6> set the IE "SFN-SFN observed time difference type 2" and all IEs within the corresponding IE "UE positioning OTDOA quality" in IE "UE positioning OTDOA measured results" to value "0".

1> if the UE is not able to report the requested measurement results; or

[…]

< ***NEXT MODIFIED SECTION >***

8.6.7.19.2 UE positioning OTDOA assistance data for UE-assisted

[…]

If IE "UE positioning measurement" is received in the MEASUREMENT CONTROL message, the UE shall also perform the following consistency checks:

1> if IE "Positioning Methods" is set to "OTDOA" ~~or "Cell ID":~~

2> if IE "UE positioning OTDOA reference cell info for UE-assisted" is not included and if UE positioning OTDOA reference cell info for UE-assisted in variable UE_POSITIONING_OTDOA_DATA_UE_ASSISTED is empty:

3> set the variable CONFIGURATION_INCOMPLETE to TRUE.

1> if IE "Positioning Methods" is set to "OTDOA":

2> if IE "UE positioning OTDOA neighbour cell list for UE-assisted" is not included and if less than two neighbour cells are stored in UE positioning OTDOA neighbour cell info list for UE-assisted in variable UE_POSITIONING_OTDOA_DATA_UE_ASSISTED:

3> set the variable CONFIGURATION_INCOMPLETE to TRUE.

8.6.7.19.2a UE positioning OTDOA assistance data for UE-based

[…]

< REFERENCE SECTION >

10.3.7.105 UE positioning OTDOA measured results

Information Element/Group name	Need	Multi	Type and Reference	Semantics description
SFN	MP		Integer(0..4095)	SFN during which the last measurement was performed
CHOICE *mode*				
>FDD				
>>Reference cell id	MP		Primary CPICH info 10.3.6.60	
>>UE Rx-Tx time difference type 2 info	MP			
>>>UE Rx-Tx time difference type 2	MP		UE Rx-Tx time difference type 2 10.3.7.84	
>>>UE positioning OTDOA quality	MP		UE positioning OTDOA quality 10.3.7.107	Quality of the UE Rx-Tx time difference type 2 measurement from the reference cell.
>TDD				(no data)
>>Reference cell id	MP		Cell parameters ID 10.3.6.9	
Neighbours	MP	0 to <maxCellMeas>		
>CHOICE *mode*	MP			
>>FDD				
>>>Neighbour Identity	MD		Primary CPICH info 10.3.6.60	Default value is the same as in the first set of multiple sets.
>>>Frequency info	MD		Frequency info 10.3.6.36	Default value is the existing value of frequency information
>>>UE Rx-Tx time difference type 2 info	OP			Included for cell in the active set excluding the reference cell.
>>>>UE Rx-Tx time difference type 2	MP		UE Rx-Tx time difference type 2 10.3.7.84	
>>>>UE positioning OTDOA quality	MP		UE positioning OTDOA quality 10.3.7.107	Quality of the UE Rx-Tx time difference type 2 measurement from the neighbour cell.
>>TDD				
>>>Cell and Channel ID	MD		Cell and Channel Identity info 10.3.6.8a	Default value is the same as in the first set of multiple sets.
>UE positioning OTDOA quality	MP		UE positioning OTDOA quality 10.3.7.107	Quality of the SFN-SFN observed time difference type 2 measurement from the neighbour cell.
>SFN-SFN observed time difference type 2	MP		SFN-SFN observed time difference 10.3.7.63	Gives the timing relative to the reference cell. Only type 2 is allowed.

< REFERENCE SECTION >

10.3.7.108 UE positioning OTDOA reference cell info

This IE defines the cell used for time references in all OTDOA measurements.

Information Element/Group name	Need	Multi	Type and Reference	Semantics description
SFN	OP		Integer (0..4095)	Time stamp (SFN of Reference Cell) of the SFN-SFN relative time differences and SFN-SFN drift rates. Included if any SFN-SFN drift value is included in IE UE positioning OTDOA neighbour cell info.
CHOICE *mode*	MP			
>FDD				
>>Primary CPICH info	MP		Primary CPICH info 10.3.6.60	
>TDD				
>>cell and channel ID	MP		Cell and Channel Identity info 10.3.6.8a	Identifies the channel to be measured on.
Frequency info	MD		Frequency info 10.3.6.36	Default value is the existing value of frequency information. This IE shall always be set to default value
CHOICE *PositioningMode*	MP			
>UE based				
>UE assisted				(no data)
IPDL parameters	OP		UE positioning IPDL parameters 10.3.7.98	If this element is not included there are no idle periods present

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Paris, France, 19-23 May, 2003

Tdoc ⌘R2-031434

CR-Form-v7

CHANGE REQUEST

⌘ **25.331** **CR** **1915** ⌘ **rev** **1** ⌘ Current version: **4.9.0** ⌘

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

Proposed change affects: UICC apps⌘ [ ] ME [X] Radio Access Network [X] Core Network [ ]

Title:	⌘	Concerns on Procedures for Cell-ID Positioning Method
Source:	⌘	RAN WG2
Work item code:	⌘	TEI
Date:	⌘	19 May 2003
Category:	⌘	**A**
Release:	⌘	Rel-4

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

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

Reason for change: ⌘

Currently, a UTRAN request for a UE to report Cell-ID measurements (i.e., UE Rx-Tx time difference type2) must include assistance data that is corresponding only to the OTDOA method. However, a UE is capable of making and reporting these Cell-ID measurements for the cells in its active set without such OTDOA reference cell info being present. Thus, unnecessary requirements are placed upon both the UTRAN and UE related to including and then checking for the presence of this OTDOA reference cell info assistance data.

Furthermore, the resulting interdependency between the UE Rx-Tx time difference type 2 measurement reporting behaviour for Cell-ID positioning and the OTDOA reference cell info assistance introduces additional unnecessary reporting requirements into the specification.

Summary of change: ⌘

In clause 8.6.7.19.2, the requirement for UE consistency checking for OTDOA reference cell info assistance is removed for the case of Cell-ID positioning method.

In clause 8.6.7.19.1a, the Cell-ID measurement reporting procedure is modified as follows:
- UE designates one of the cells of the active set to serve as the “reference cell” for reporting purposes
- Requirements for checking inclusion of reference cell in active set is removed
- Clarified for reported neighbour cells that SFN-SFN type 2 measurements and corresponding quality values are both set to “0”

Note that tabular description of IE “UE positioning OTDOA measured results” (clause 10.3.7.105) and corresponding ASN.1 description remain unchanged.

		Isolated Impact Change Analysis. This change is limited to the functionality for UE receiving requests and reporting measured results for Cell-ID positioning method. It would not affect implementations behaving like indicated in the CR, it would affect implementations supporting the corrected functionality otherwise. **Impact on Test specifications** There is no impact on the test specifications.
Consequences if not approved:	⌘	Unnecessary requirements for UTRAN and UE related to including and then checking for the presence of OTDOA reference cell info assistance data remain for Cell-ID positioning method. In addition, unnecessary reporting requirements for Cell-ID positioning measurement results remain. Furthermore, several unnecessary test cases must eventually be created for UE consistency checking of OTDOA reference cell info and for UE reporting of Cell-ID positioning results.

Clauses affected:	⌘	8.6.7.19.1a, 8.6.7.19.2			
		Y	**N**		
Other specs affected:	⌘		**X**	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘	Modifications specific to rev_1 of this CR (1915) are shaded in yellow.			

How to create CRs using this form:

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

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.
3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

< ***NEXT MODIFIED SECTION*** >

[…]

8.6.7.19.1a UE positioning reporting for UE assisted methods

The UE shall:

1> when a measurement report is triggered; and

1> if higher layers indicated that the positioning request is permitted:

2> if the UE was able to perform measurements on at least one neighbour cell in case of OTDOA or one satellite in case of GPS positioning:

[…]

3> if the IE "Positioning Methods" is set to "GPS":

[…]

3> if the IE "Positioning Methods" is set to "OTDOA":

[…]

3> if the IE "Positioning Methods" is set to "CELL ID":

4> if the UE supports the capability to perform the Rx-Tx time difference type 2 measurement; and

4> if the UE is in CELL_DCH state:

5> perform the Rx-Tx time difference type 2 measurement on the cells in the active set; and

5> report the measurement results back to the network in the MEASUREMENT REPORT by using IE "UE positioning OTDOA measured results" including measurements on the cells in the active set; and

~~5> in case the reference cell (indicated in the IE "UE positioning OTDOA assistance data") belongs to the active set of the UE:~~

5>~~6>~~ report Rx-Tx time difference type 2 measurment of the reference cell (as designated by the UE); and~~also.~~

~~5> in case the reference cell (indicated in the IE "UE positioning OTDOA assistance data") does not belong to the active set of the UE:~~

~~6> set the IE "Rx-Tx time difference type 2" in IE "UE positioning OTDOA measured results" for the reference cell to value "1279.9375".~~

5> ~~5>~~ for all reported neighbour cells:

6> report Rx-Tx time difference type 2 measurement; and

6> set the IE "SFN-SFN observed time difference type 2" and all IEs within the corresponding IE "UE positioning OTDOA quality" in IE "UE positioning OTDOA measured results" to value "0".

1> if the UE is not able to report the requested measurement results; or

[…]

< ***NEXT MODIFIED SECTION >***

8.6.7.19.2 UE positioning OTDOA assistance data for UE-assisted

[…]

If IE "UE positioning measurement" is received in the MEASUREMENT CONTROL message, the UE shall also perform the following consistency checks:

1> if IE "Positioning Methods" is set to "OTDOA" ~~or "Cell ID":~~

2> if IE "UE positioning OTDOA reference cell info for UE-assisted" is not included and if UE positioning OTDOA reference cell info for UE-assisted in variable UE_POSITIONING_OTDOA_DATA_UE_ASSISTED is empty:

3> set the variable CONFIGURATION_INCOMPLETE to TRUE.

1> if IE "Positioning Methods" is set to "OTDOA":

2> if IE "UE positioning OTDOA neighbour cell list for UE-assisted" is not included and if less than two neighbour cells are stored in UE positioning OTDOA neighbour cell info list for UE-assisted in variable UE_POSITIONING_OTDOA_DATA_UE_ASSISTED:

3> set the variable CONFIGURATION_INCOMPLETE to TRUE.

8.6.7.19.2a UE positioning OTDOA assistance data for UE-based

[…]

< REFERENCE SECTION >

10.3.7.105 UE positioning OTDOA measured results

Information Element/Group name	Need	Multi	Type and Reference	Semantics description
SFN	MP		Integer(0..4095)	SFN during which the last measurement was performed
CHOICE *mode*				
>FDD				
>>Reference cell id	MP		Primary CPICH info 10.3.6.60	
>>UE Rx-Tx time difference type 2 info	MP			
>>>UE Rx-Tx time difference type 2	MP		UE Rx-Tx time difference type 2 10.3.7.84	
>>>UE positioning OTDOA quality	MP		UE positioning OTDOA quality 10.3.7.107	Quality of the UE Rx-Tx time difference type 2 measurement from the reference cell.
>TDD				(no data)
>>Reference cell id	MP		Cell parameters ID 10.3.6.9	
Neighbours	MP	0 to <maxCellMeas>		
>CHOICE *mode*	MP			
>>FDD				
>>>Neighbour Identity	MD		Primary CPICH info 10.3.6.60	Default value is the same as in the first set of multiple sets.
>>>Frequency info	MD		Frequency info 10.3.6.36	Default value is the existing value of frequency information
>>>UE Rx-Tx time difference type 2 info	OP			Included for cell in the active set excluding the reference cell.
>>>>UE Rx-Tx time difference type 2	MP		UE Rx-Tx time difference type 2 10.3.7.84	
>>>>UE positioning OTDOA quality	MP		UE positioning OTDOA quality 10.3.7.107	Quality of the UE Rx-Tx time difference type 2 measurement from the neighbour cell.
>>TDD				
>>>Cell and Channel ID	MD		Cell and Channel Identity info 10.3.6.8a	Default value is the same as in the first set of multiple sets.
>UE positioning OTDOA quality	MP		UE positioning OTDOA quality 10.3.7.107	Quality of the SFN-SFN observed time difference type 2 measurement from the neighbour cell.
>SFN-SFN observed time difference type 2	MP		SFN-SFN observed time difference 10.3.7.63	Gives the timing relative to the reference cell. Only type 2 is allowed.

< REFERENCE SECTION >

10.3.7.108 UE positioning OTDOA reference cell info

This IE defines the cell used for time references in all OTDOA measurements.

Information Element/Group name	Need	Multi	Type and Reference	Semantics description
SFN	OP		Integer (0..4095)	Time stamp (SFN of Reference Cell) of the SFN-SFN relative time differences and SFN-SFN drift rates. Included if any SFN-SFN drift value is included in IE UE positioning OTDOA neighbour cell info.
CHOICE *mode*	MP			
>FDD				
>>Primary CPICH info	MP		Primary CPICH info 10.3.6.60	
>TDD				
>>cell and channel ID	MP		Cell and Channel Identity info 10.3.6.8a	Identifies the channel to be measured on.
Frequency info	MD		Frequency info 10.3.6.36	Default value is the existing value of frequency information. This IE shall always be set to default value
CHOICE *PositioningMode*	MP			
>UE based				
>UE assisted				(no data)
IPDL parameters	OP		UE positioning IPDL parameters 10.3.7.98	If this element is not included there are no idle periods present

3GPP TSG-RAN2 Meeting #36
Paris, France, 19-23 May, 2003

Tdoc ⌘R2-031435

CR-Form-v7

CHANGE REQUEST

⌘ **25.331** **CR** **1916** ⌘ **rev** **1** ⌘ Current version: **5.4.0** ⌘

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

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

Title:	⌘	Concerns on Procedures for Cell-ID Positioning Method
Source:	⌘	RAN WG2
Work item code:	⌘	TEI
Date:	⌘	19 May 2003
Category:	⌘	**A**
Release:	⌘	Rel-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

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

Reason for change: ⌘

Currently, a UTRAN request for a UE to report Cell-ID measurements (i.e., UE Rx-Tx time difference type2) must include assistance data that is corresponding only to the OTDOA method. However, a UE is capable of making and reporting these Cell-ID measurements for the cells in its active set without such OTDOA reference cell info being present. Thus, unnecessary requirements are placed upon both the UTRAN and UE related to including and then checking for the presence of this OTDOA reference cell info assistance data.

Furthermore, the resulting interdependency between the UE Rx-Tx time difference type 2 measurement reporting behaviour for Cell-ID positioning and the OTDOA reference cell info assistance introduces additional unnecessary reporting requirements into the specification.

Summary of change: ⌘

In clause 8.6.7.19.2, the requirement for UE consistency checking for OTDOA reference cell info assistance is removed for the case of Cell-ID positioning method.

In clause 8.6.7.19.1a, the Cell-ID measurement reporting procedure is modified as follows:
- UE designates one of the cells of the active set to serve as the “reference cell” for reporting purposes
- Requirements for checking inclusion of reference cell in active set is removed
- Clarified for reported neighbour cells that SFN-SFN type 2 measurements and corresponding quality values are both set to “0”

Note that tabular description of IE “UE positioning OTDOA measured results” (clause 10.3.7.105) and corresponding ASN.1 description remain unchanged.

		Isolated Impact Change Analysis. This change is limited to the functionality for UE receiving requests and reporting measured results for Cell-ID positioning method. It would not affect implementations behaving like indicated in the CR, it would affect implementations supporting the corrected functionality otherwise. **Impact on Test specifications** There is no impact on the test specifications.
Consequences if not approved:	⌘	Unnecessary requirements for UTRAN and UE related to including and then checking for the presence of OTDOA reference cell info assistance data remain for Cell-ID positioning method. In addition, unnecessary reporting requirements for Cell-ID positioning measurement results remain. Furthermore, several unnecessary test cases must eventually be created for UE consistency checking of OTDOA reference cell info and for UE reporting of Cell-ID positioning results.

Clauses affected:	⌘	8.6.7.19.1a, 8.6.7.19.2			
		Y	**N**		
Other specs affected:	⌘		**X**	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘	Modifications specific to rev_1 of this CR (1916) are shaded in yellow.			

How to create CRs using this form:

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

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.
3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

< ***NEXT MODIFIED SECTION >***

[…]

8.6.7.19.1a UE positioning reporting for UE assisted methods

The UE shall:

1> when a measurement report is triggered; and

1> if higher layers indicated that the positioning request is permitted:

2> if the UE was able to perform measurements on at least one neighbour cell in case of OTDOA or one satellite in case of GPS positioning:

[…]

3> if the IE "Positioning Methods" is set to "GPS":

[…]

3> if the IE "Positioning Methods" is set to "OTDOA":

[…]

3> if the IE "Positioning Methods" is set to "CELL ID":

4> if the UE supports the capability to perform the Rx-Tx time difference type 2 measurement; and

4> if the UE is in CELL_DCH state:

5> perform the Rx-Tx time difference type 2 measurement on the cells in the active set; and

5> report the measurement results back to the network in the MEASUREMENT REPORT by using IE "UE positioning OTDOA measured results" including measurements on the cells in the active set; and

~~5> in case the reference cell (indicated in the IE "UE positioning OTDOA assistance data") belongs to the active set of the UE:~~

5>~~6>~~ report Rx-Tx time difference type 2 measurement of the reference cell (as designated by the UE); and~~also.~~

~~5> in case the reference cell (indicated in the IE "UE positioning OTDOA assistance data") does not belong to the active set of the UE:~~

~~6> set the IE "Rx-Tx time difference type 2" in IE "UE positioning OTDOA measured results" for the reference cell to value "1279.9375".~~

5> ~~5>~~ for all reported neighbour cells:

6> report Rx-Tx time difference type 2 measurement; and

6> set the IE "SFN-SFN observed time difference type 2" and all IEs within the corresponding IE "UE positioning OTDOA quality" in IE "UE positioning OTDOA measured results" to value "0".

1> if the UE is not able to report the requested measurement results; or

[…]

< ***NEXT MODIFIED SECTION >***

8.6.7.19.2 UE positioning OTDOA assistance data for UE-assisted

[…]

If IE "UE positioning measurement" is received in the MEASUREMENT CONTROL message, the UE shall also perform the following consistency checks:

1> if IE "Positioning Methods" is set to "OTDOA" ~~or "Cell ID":~~

2> if IE "UE positioning OTDOA reference cell info for UE-assisted" is not included and if UE positioning OTDOA reference cell info for UE-assisted in variable UE_POSITIONING_OTDOA_DATA_UE_ASSISTED is empty:

3> set the variable CONFIGURATION_INCOMPLETE to TRUE.

1> if IE "Positioning Methods" is set to "OTDOA":

2> if IE "UE positioning OTDOA neighbour cell list for UE-assisted" is not included and if less than two neighbour cells are stored in UE positioning OTDOA neighbour cell info list for UE-assisted in variable UE_POSITIONING_OTDOA_DATA_UE_ASSISTED:

3> set the variable CONFIGURATION_INCOMPLETE to TRUE.

8.6.7.19.2a UE positioning OTDOA assistance data for UE-based

[…]

< REFERENCE SECTION >

10.3.7.105 UE positioning OTDOA measured results

Information Element/Group name	Need	Multi	Type and Reference	Semantics description
SFN	MP		Integer(0..4095)	SFN during which the last measurement was performed
CHOICE *mode*				
>FDD				
>>Reference cell id	MP		Primary CPICH info 10.3.6.60	
>>UE Rx-Tx time difference type 2 info	MP			
>>>UE Rx-Tx time difference type 2	MP		UE Rx-Tx time difference type 2 10.3.7.84	
>>>UE positioning OTDOA quality	MP		UE positioning OTDOA quality 10.3.7.107	Quality of the UE Rx-Tx time difference type 2 measurement from the reference cell.
>TDD				(no data)
>>Reference cell id	MP		Cell parameters ID 10.3.6.9	
Neighbours	MP	0 to <maxCellMeas>		
>CHOICE *mode*	MP			
>>FDD				
>>>Neighbour Identity	MD		Primary CPICH info 10.3.6.60	Default value is the same as in the first set of multiple sets.
>>>Frequency info	MD		Frequency info 10.3.6.36	Default value is the existing value of frequency information
>>>UE Rx-Tx time difference type 2 info	OP			Included for cell in the active set excluding the reference cell.
>>>>UE Rx-Tx time difference type 2	MP		UE Rx-Tx time difference type 2 10.3.7.84	
>>>>UE positioning OTDOA quality	MP		UE positioning OTDOA quality 10.3.7.107	Quality of the UE Rx-Tx time difference type 2 measurement from the neighbour cell.
>>TDD				
>>>Cell and Channel ID	MD		Cell and Channel Identity info 10.3.6.8a	Default value is the same as in the first set of multiple sets.
>UE positioning OTDOA quality	MP		UE positioning OTDOA quality 10.3.7.107	Quality of the SFN-SFN observed time difference type 2 measurement from the neighbour cell.
>SFN-SFN observed time difference type 2	MP		SFN-SFN observed time difference 10.3.7.63	Gives the timing relative to the reference cell. Only type 2 is allowed.

< REFERENCE SECTION >

10.3.7.108 UE positioning OTDOA reference cell info

This IE defines the cell used for time references in all OTDOA measurements.

Information Element/Group name	Need	Multi	Type and Reference	Semantics description
SFN	OP		Integer (0..4095)	Time stamp (SFN of Reference Cell) of the SFN-SFN relative time differences and SFN-SFN drift rates. Included if any SFN-SFN drift value is included in IE UE positioning OTDOA neighbour cell info.
CHOICE *mode*	MP			
>FDD				
>>Primary CPICH info	MP		Primary CPICH info 10.3.6.60	
>TDD				
>>cell and channel ID	MP		Cell and Channel Identity info 10.3.6.8a	Identifies the channel to be measured on.
Frequency info	MD		Frequency info 10.3.6.36	Default value is the existing value of frequency information. This IE shall always be set to default value
CHOICE *PositioningMode*	MP			
>UE based				
>UE assisted				(no data)
IPDL parameters	OP		UE positioning IPDL parameters 10.3.7.98	If this element is not included there are no idle periods present

3GPP TSG-RAN2 Meeting #36
Paris, France, 19-23 May, 2003

Tdoc ⌘R2-031300

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CHANGE REQUEST

⌘ **25.331** **CR** **1917** ⌘ **rev** **-** ⌘ Current version: **3.14.0** ⌘

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

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

Title: ⌘	Inconsistency between Procedural, ASN.1, and Tabular Aspects of UE Positioning Error	
Source: ⌘	RAN WG2	
Work item code: ⌘	TEI	***Date:*** ⌘ 19 May 2003
Category: ⌘	**F**	***Release:*** ⌘ R99

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change: ⌘	The ASN.1 UE positioning error cause value 'methodNotSupported' is not defined or referenced anywhere in the tabular representation of IE 'UE positioning Error' (10.3.7.87) nor is it referenced within the corresponding procedural text (8.6.7.19.5). Thus, it is unclear what is meant when UTRAN receives ASN.1 value '3' from a UE. In addition, the cause value 'methodNotSupported' is confusing since there is already an established generic RRC procedure described in clause 8.4.1.4 for handling unsupported measurement requests. Furthermore, the error reason 'ER8' is not represented in the ASN.1 description of UE positioning error cause (11.3). Thus, it is unclear how the UE can indicate to UTRAN that a particular GPS timing of cell frames measurement request could not be accomplished.
Summary of change: ⌘	In clause 11.3, the ASN.1 description of UE positioning error cause is modified as follows: - unreferenced cause 'methodNotSupported' is removed and replaced with missing cause 'notAccomplishedGPS-TimingOfCellFrames' In clause 10.3.7.87, the tabular description of IE 'UE positioning error' is modified as follows: - Intermediate "ERX" error reason symbols are replaced with text strings that directly correspond to the ASN.1 error cause values In clause 8.6.7.19.5, the procedures for sending the IE 'UE positioning Error' are modified as follows: - Intermediate "ERX" error reason symbols are replaced with text strings that

		directly correspond to the ASN.1 error cause values (as done for tabular in 10.3.7.87) **Isolated Impact Change Analysis.** This change is limited to the functionality for UE sending IE 'UE positioning Error' to UTRAN. It would not affect implementations behaving like indicated in the CR, it would affect implementations supporting the corrected functionality otherwise. **Impact on Test specifications** There is no impact on the test specifications.
Consequences if not approved:	⌘	Unreferenced UE positioning error cause value 'methodNotSupported' will remain within UE positioning error procedures, thus making its corresponding enumerated value of '3' ambiguous for UTRAN interpretation. In addition, it will remain unclear about which procedure (clause 8.4.1.4 or 8.6.7.19.5) the UE should use to report unsupported UE positioning measurement. Furthermore, it will remain impossible for the UE to correctly indicate that a particular GPS timing of cell frames measurement request could not be accomplished.

Clauses affected:	⌘	8.6.7.19.5, 10.3.7.87, 11.3			
Other specs affected:	⌘	**Y** / **N** **X** **X** **X**	Other core specifications Test specifications O&M Specifications	⌘	
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.

< ***NEXT MODIFIED SECTION >***

[…]

8.6.7.19.5 UE positioning Error

The UE shall set the contents of the IE "UE positioning Error" as follows:

1> if the IE "Positioning Methods" in IE "UE positioning reporting quantity" has been assigned to value "OTDOA" and no neighbour cells could be received,

2> set IE "Error reason" to "~~ER1~~Not Enough OTDOA Cells";

1> if the IE "Positioning Methods" in IE "UE positioning reporting quantity" has been assigned to value "GPS":

2> if there were not enough GPS satellites to be received:

3> set IE "Error reason" to "~~ER2~~Not Enough GPS Satellites".

2> if some GPS assistance data was missing:

3> set IE "Error reason" to "~~ER3~~Assistance Data Missing"; and

3> if the IE ""Additional Assistance Data Request" included in the IE "UE positioning reporting quantity" stored in the variable MEASUREMENT_IDENTITY is set to TRUE:

4> include the IE GPS Additional Assistance Data Request".

2> if the UE was not able to read the SFN of the reference cell included in the IE "UE positioning GPS reference time" or in the IE "UE positioning acquisition assistance":

3> set IE "Error reason" to "~~ER7~~Reference Cell Not Serving Cell".

2> if the UE was not able to measure the requested GPS timing of cell frames measurement:

3> set IE "Error reason" to "~~ER8~~Not Accomplished GPS Timing Of Cell Frames".

1> if higher layers have indicated that the positioning request is not permitted:

2> set IE "Error reason" to "~~ER5~~Request Denied By User".

1> if the positioning request was not processed by higher layers and timed out:

2> set IE "Error reason" to "~~ER6~~Not Processed And Timeout".

1> if none of the conditions above are fulfilled:

2> set IE "Error reason" to "~~ER4~~Undefined Error".

8.6.7.19.6 Void

< ***NEXT MODIFIED SECTION >***

10.3.7.87 UE positioning Error

Information Element/Group name	Need	Multi	Type and Reference	Semantics description
Error reason	MP		Enumerated(Not Enough OTDOA Cells, Not Enough GPS Satellites, Assistance Data Missing, Not Accomplished GPS Timing Of Cell Frames, Undefined Error, Request Denied By User, Not Processed And Timeout, Reference Cell Not Serving Cell ~~ER1, ER2, ER3, ER4, ER5, ER6, ER7, ER8~~)	Note 1
GPS Additional Assistance Data Request	OP		UE positioning GPS Additional Assistance Data Request 10.3.7.88a	

NOTE 1: The following table describes each value~~gives the mapping~~ of the IE "Error reason".

Value	Indication
~~ER1~~Not Enough OTDOA Cells	There were not enough cells to be received.
~~ER2~~Not Enough GPS Satellites	There were not enough GPS satellites to be received.
~~ER3~~Assistance Data Missing	UE positioning GPS assistance data missing.
Not Accomplished GPS Timing Of Cell Frames	UE was not able to accomplish the GPS timing of cell frames measurement.
~~ER4~~Undefined Error	Undefined error.
~~ER5~~Request Denied By User	UE positioning request denied by upper layers.
~~ER6~~Not Processed And Timeout	UE positioning request not processed by upper layers and timeout.
~~ER7~~Reference Cell Not Serving Cell	UE was not able to read the SFN of the reference cell.
~~ER8~~	~~UE was not able to accomplish the GPS timing of cell frames measurement.~~

[…]

< NEXT MODIFIED SECTION >

11.3 Information element definitions

```
InformationElements DEFINITIONS AUTOMATIC TAGS ::=

-- ************************************************
--
--     CORE NETWORK INFORMATION ELEMENTS (10.3.1)
--
-- ************************************************
```

[…]

```
UE-Positioning-ErrorCause ::=                ENUMERATED {
                                        notEnoughOTDOA-Cells,
                                        notEnoughGPS-Satellites,
                                        assistanceDataMissing,
                                        methodNotSupportednotAccomplishedGPS-TimingOfCellFrames,
                                        undefinedError,
                                        requestDeniedByUser,
                                        notProcessedAndTimeout,
                                        referenceCellNotServingCell }
```

[…]

3GPP TSG-RAN2 Meeting #36
Paris, France, 19-23 May, 2003

Tdoc ⌘R2-031301

CR-Form-v7

CHANGE REQUEST

⌘ **25.331** **CR** **1918** ⌘ **rev** **-** ⌘ Current version: **4.9.0** ⌘

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

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

Title: ⌘	Inconsistency between Procedural, ASN.1, and Tabular Aspects of UE Positioning Error	
Source: ⌘	RAN WG2	
Work item code: ⌘	TEI	***Date:*** ⌘ 19 May 2003
Category: ⌘	**A**	***Release:*** ⌘ Rel-4

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change: ⌘	The ASN.1 UE positioning error cause value 'methodNotSupported' is not defined or referenced anywhere in the tabular representation of IE 'UE positioning Error' (10.3.7.87) nor is it referenced within the corresponding procedural text (8.6.7.19.5). Thus, it is unclear what is meant when UTRAN receives ASN.1 value '3' from a UE. In addition, the cause value 'methodNotSupported' is confusing since there is already an established generic RRC procedure described in clause 8.4.1.4 for handling unsupported measurement requests. Furthermore, the error reason 'ER8' is not represented in the ASN.1 description of UE positioning error cause (11.3). Thus, it is unclear how the UE can indicate to UTRAN that a particular GPS timing of cell frames measurement request could not be accomplished.
Summary of change: ⌘	In clause 11.3, the ASN.1 description of UE positioning error cause is modified as follows: - unreferenced cause 'methodNotSupported' is removed and replaced with missing cause 'notAccomplishedGPS-TimingOfCellFrames' In clause 10.3.7.87, the tabular description of IE 'UE positioning error' is modified as follows: - Intermediate "ERX" error reason symbols are replaced with text strings that directly correspond to the ASN.1 error cause values In clause 8.6.7.19.5, the procedures for sending the IE 'UE positioning Error' are modified as follows: - Intermediate "ERX" error reason symbols are replaced with text strings that

		directly correspond to the ASN.1 error cause values (as done for tabular in 10.3.7.87) **Isolated Impact Change Analysis.** This change is limited to the functionality for UE sending IE 'UE positioning Error' to UTRAN. It would not affect implementations behaving like indicated in the CR, it would affect implementations supporting the corrected functionality otherwise. **Impact on Test specifications** There is no impact on the test specifications.
Consequences if not approved:	⌘	Unreferenced UE positioning error cause value 'methodNotSupported' will remain within UE positioning error procedures, thus making its corresponding enumerated value of '3' ambiguous for UTRAN interpretation. In addition, it will remain unclear about which procedure (clause 8.4.1.4 or 8.6.7.19.5) the UE should use to report unsupported UE positioning measurement. Furthermore, it will remain impossible for the UE to correctly indicate that a particular GPS timing of cell frames measurement request could not be accomplished.

Clauses affected:	⌘	8.6.7.19.5, 10.3.7.87, 11.3			
Other specs affected:	⌘	**Y** / **N** **X** **X** **X**	Other core specifications Test specifications O&M Specifications	⌘	
Other comments:	⌘				

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< ***NEXT MODIFIED SECTION >***

[…]

8.6.7.19.5 UE positioning Error

The UE shall set the contents of the IE "UE positioning Error" as follows:

1> if the IE "Positioning Methods" in IE "UE positioning reporting quantity" has been assigned to value "OTDOA" and no neighbour cells could be received,

2> set IE "Error reason" to "~~ER1~~Not Enough OTDOA Cells";

1> if the IE "Positioning Methods" in IE "UE positioning reporting quantity" has been assigned to value "GPS":

2> if there were not enough GPS satellites to be received:

3> set IE "Error reason" to "~~ER2~~Not Enough GPS Satellites".

2> if some GPS assistance data was missing:

3> set IE "Error reason" to "~~ER3~~Assistance Data Missing"; and

3> if the IE ""Additional Assistance Data Request" included in the IE "UE positioning reporting quantity" stored in the variable MEASUREMENT_IDENTITY is set to TRUE:

4> include the IE GPS Additional Assistance Data Request".

2> if the UE was not able to read the SFN of the reference cell included in the IE "UE positioning GPS reference time" or in the IE "UE positioning acquisition assistance":

3> set IE "Error reason" to "~~ER7~~Reference Cell Not Serving Cell".

2> if the UE was not able to measure the requested GPS timing of cell frames measurement:

3> set IE "Error reason" to "~~ER8~~Not Accomplished GPS Timing Of Cell Frames".

1> if higher layers have indicated that the positioning request is not permitted:

2> set IE "Error reason" to "~~ER5~~Request Denied By User".

1> if the positioning request was not processed by higher layers and timed out:

2> set IE "Error reason" to "~~ER6~~Not Processed And Timeout".

1> if none of the conditions above are fulfilled:

2> set IE "Error reason" to "~~ER4~~Undefined Error".

8.6.7.19.6 Void

< ***NEXT MODIFIED SECTION >***

10.3.7.87 UE positioning Error

Information Element/Group name	Need	Multi	Type and Reference	Semantics description
Error reason	MP		Enumerated(Not Enough OTDOA Cells, Not Enough GPS Satellites, Assistance Data Missing, Not Accomplished GPS Timing Of Cell Frames, Undefined Error, Request Denied By User, Not Processed And Timeout, Reference Cell Not Serving Cell ~~ER1, ER2, ER3, ER4, ER5, ER6, ER7, ER8~~)	Note 1
GPS Additional Assistance Data Request	OP		UE positioning GPS Additional Assistance Data Request 10.3.7.88a	

NOTE 1: The following table describes each value~~gives the mapping~~ of the IE "Error reason".

Value	Indication
~~ER1~~Not Enough OTDOA Cells	There were not enough cells to be received.
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~~ER3~~Assistance Data Missing	UE positioning GPS assistance data missing.
Not Accomplished GPS Timing Of Cell Frames	UE was not able to accomplish the GPS timing of cell frames measurement.
~~ER4~~Undefined Error	Undefined error.
~~ER5~~Request Denied By User	UE positioning request denied by upper layers.
~~ER6~~Not Processed And Timeout	UE positioning request not processed by upper layers and timeout.
~~ER7~~Reference Cell Not Serving Cell	UE was not able to read the SFN of the reference cell.
~~ER8~~	~~UE was not able to accomplish the GPS timing of cell frames measurement.~~

[…]

< NEXT MODIFIED SECTION >

11.3 Information element definitions

```
InformationElements DEFINITIONS AUTOMATIC TAGS ::=

-- ********************************************
--
--     CORE NETWORK INFORMATION ELEMENTS (10.3.1)
--
-- ********************************************
```

[...]

```
UE-Positioning-ErrorCause ::=                ENUMERATED {
                                        notEnoughOTDOA-Cells,
                                        notEnoughGPS-Satellites,
                                        assistanceDataMissing,
                                        methodNotSupportednotAccomplishedGPS-TimingOfCellFrames,
                                        undefinedError,
                                        requestDeniedByUser,
                                        notProcessedAndTimeout,
                                        referenceCellNotServingCell }
```

[...]

3GPP TSG-RAN2 Meeting #36
Paris, France, 19-23 May, 2003

Tdoc ⌘R2-031302

CR-Form-v7

CHANGE REQUEST

⌘ **25.331** **CR** **1919** ⌘ **rev** **-** ⌘ Current version: **5.4.0** ⌘

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

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

Title: ⌘	Inconsistency between Procedural, ASN.1, and Tabular Aspects of UE Positioning Error	
Source: ⌘	RAN WG2	
Work item code: ⌘	TEI	***Date:*** ⌘ 19 May 2003
Category: ⌘	**A**	***Release:*** ⌘ Rel-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change: ⌘	The ASN.1 UE positioning error cause value 'methodNotSupported' is not defined or referenced anywhere in the tabular representation of IE 'UE positioning Error' (10.3.7.87) nor is it referenced within the corresponding procedural text (8.6.7.19.5). Thus, it is unclear what is meant when UTRAN receives ASN.1 value '3' from a UE. In addition, the cause value 'methodNotSupported' is confusing since there is already an established generic RRC procedure described in clause 8.4.1.4 for handling unsupported measurement requests. Furthermore, the error reason 'ER8' is not represented in the ASN.1 description of UE positioning error cause (11.3). Thus, it is unclear how the UE can indicate to UTRAN that a particular GPS timing of cell frames measurement request could not be accomplished.
Summary of change: ⌘	In clause 11.3, the ASN.1 description of UE positioning error cause is modified as follows: - unreferenced cause 'methodNotSupported' is removed and replaced with missing cause 'notAccomplishedGPS-TimingOfCellFrames' In clause 10.3.7.87, the tabular description of IE 'UE positioning error' is modified as follows: - Intermediate "ERX" error reason symbols are replaced with text strings that directly correspond to the ASN.1 error cause values In clause 8.6.7.19.5, the procedures for sending the IE 'UE positioning Error' are modified as follows: - Intermediate "ERX" error reason symbols are replaced with text strings that

		directly correspond to the ASN.1 error cause values (as done for tabular in 10.3.7.87) **Isolated Impact Change Analysis.** This change is limited to the functionality for UE sending IE 'UE positioning Error' to UTRAN. It would not affect implementations behaving like indicated in the CR, it would affect implementations supporting the corrected functionality otherwise. **Impact on Test specifications** There is no impact on the test specifications.
Consequences if not approved:	⌘	Unreferenced UE positioning error cause value 'methodNotSupported' will remain within UE positioning error procedures, thus making its corresponding enumerated value of '3' ambiguous for UTRAN interpretation. In addition, it will remain unclear about which procedure (clause 8.4.1.4 or 8.6.7.19.5) the UE should use to report unsupported UE positioning measurement. Furthermore, it will remain impossible for the UE to correctly indicate that a particular GPS timing of cell frames measurement request could not be accomplished.

Clauses affected:	⌘	8.6.7.19.5, 10.3.7.87, 11.3			
Other specs affected:	⌘	**Y** / **N** **X** **X** **X**	Other core specifications Test specifications O&M Specifications	⌘	
Other comments:	⌘				

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< ***NEXT MODIFIED SECTION >***

[…]

8.6.7.19.5 UE positioning Error

The UE shall set the contents of the IE "UE positioning Error" as follows:

1> if the IE "Positioning Methods" in IE "UE positioning reporting quantity" has been assigned to value "OTDOA" and no neighbour cells could be received,

2> set IE "Error reason" to "~~ER1~~Not Enough OTDOA Cells";

1> if the IE "Positioning Methods" in IE "UE positioning reporting quantity" has been assigned to value "GPS":

2> if there were not enough GPS satellites to be received:

3> set IE "Error reason" to "~~ER2~~Not Enough GPS Satellites".

2> if some GPS assistance data was missing:

3> set IE "Error reason" to "~~ER3~~Assistance Data Missing"; and

3> if the IE ""Additional Assistance Data Request" included in the IE "UE positioning reporting quantity" stored in the variable MEASUREMENT_IDENTITY is set to TRUE:

4> include the IE GPS Additional Assistance Data Request".

2> if the UE was not able to read the SFN of the reference cell included in the IE "UE positioning GPS reference time" or in the IE "UE positioning acquisition assistance":

3> set IE "Error reason" to "~~ER7~~Reference Cell Not Serving Cell".

2> if the UE was not able to measure the requested GPS timing of cell frames measurement:

3> set IE "Error reason" to "~~ER8~~Not Accomplished GPS Timing Of Cell Frames".

1> if higher layers have indicated that the positioning request is not permitted:

2> set IE "Error reason" to "~~ER5~~Request Denied By User".

1> if the positioning request was not processed by higher layers and timed out:

2> set IE "Error reason" to "~~ER6~~Not Processed And Timeout".

1> if none of the conditions above are fulfilled:

2> set IE "Error reason" to "~~ER4~~Undefined Error".

8.6.7.19.6 Void

< ***NEXT MODIFIED SECTION >***

10.3.7.87 UE positioning Error

Information Element/Group name	Need	Multi	Type and Reference	Semantics description
Error reason	MP		Enumerated(Not Enough OTDOA Cells, Not Enough GPS Satellites, Assistance Data Missing, Not Accomplished GPS Timing Of Cell Frames, Undefined Error, Request Denied By User, Not Processed And Timeout, Reference Cell Not Serving Cell ~~ER1, ER2, ER3, ER4, ER5, ER6, ER7, ER8~~)	Note 1
GPS Additional Assistance Data Request	OP		UE positioning GPS Additional Assistance Data Request 10.3.7.88a	

NOTE 1: The following table describes each value~~gives the mapping~~ of the IE "Error reason".

Value	Indication
~~ER1~~Not Enough OTDOA Cells	There were not enough cells to be received.
~~ER2~~Not Enough GPS Satellites	There were not enough GPS satellites to be received.
~~ER3~~Assistance Data Missing	UE positioning GPS assistance data missing.
Not Accomplished GPS Timing Of Cell Frames	UE was not able to accomplish the GPS timing of cell frames measurement.
~~ER4~~Undefined Error	Undefined error.
~~ER5~~Request Denied By User	UE positioning request denied by upper layers.
~~ER6~~Not Processed And Timeout	UE positioning request not processed by upper layers and timeout.
~~ER7~~Reference Cell Not Serving Cell	UE was not able to read the SFN of the reference cell.
~~ER8~~	~~UE was not able to accomplish the GPS timing of cell frames measurement.~~

[…]

< NEXT MODIFIED SECTION >

11.3 Information element definitions

```
InformationElements DEFINITIONS AUTOMATIC TAGS ::=

-- ************************************************
--
--     CORE NETWORK INFORMATION ELEMENTS (10.3.1)
--
-- ************************************************
```

[...]

```
UE-Positioning-ErrorCause ::=                ENUMERATED {
                                        notEnoughOTDOA-Cells,
                                        notEnoughGPS-Satellites,
                                        assistanceDataMissing,
                                        methodNotSupportednotAccomplishedGPS-TimingOfCellFrames,
                                        undefinedError,
                                        requestDeniedByUser,
                                        notProcessedAndTimeout,
                                        referenceCellNotServingCell }
```

[...]

3GPP TSG-RAN WG2 Meeting #36 **⌘R2-031303**
Paris, France, May 19 – 23, 2003

CR-Form-v7

CHANGE REQUEST

⌘ **25.331** **CR** **1920** ⌘ **rev** **-** ⌘ Current version: **3.14.0** ⌘

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

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

Title:	⌘	Removal of FFS (For further Study) and references to other working groups
Source:	⌘	RAN WG2
Work item code:	⌘	TEI
Date:	⌘	21/05/2003
Category:	⌘	**F**
Release:	⌘	R99

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

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

Reason for change: ⌘

In clause "3.2 Abbreviations", there is an Abbreviation for "For Further Study", which is not needed anymore and could lead to the assumption, that there are still issues in the specification, which are for further study.

It is proposed to remove this abbreviation without substitution.

In clause "10.3.1.3 CN Information info", there is a note

> "NOTE: Necessity of PLMN is FFS and for CN domain identity and NAS system information, the confirmation in SA WG2 is needed",

which was introduced by RAN2#5 while enhancing "Cell Update Confirm" message, for the reason

> "when also broadcast it remains unclear why they are also included in a dedicated channel message. An "ffs" shall be added until clarification is available."

This Note is still present, so not further studies seem do have been done. But since introduction of this note, many information elements were restructured and also sending of IEs mentioned above was made optional. So from the protocol point of view, there is no need to keep this note, but for reason of clarity it should be removed without substitution.

In clause "10.3.5.23 Transport Format Set ", there is a note

	" NOTE: The parameter "rate matching attribute" is in line with the RAN WG1 specifications. However, it is not currently in line with the description in [34].", which was introduced by RAN2#5 while enhancing "Transport Format Set" IE message, for the reason, that rate matching attribute was described differently in TS 25.302. Even if the rate matching description in TS 25302 was aligned since version 300 of TS 25.302, this Note is still present. For reason of clarity the note should be removed without substitution. In informative clause B.3.4.3 there is a FFS (for further study). It was introduced, when this part description was still in the normative section of TS 25.331. After reorganization of TS 25.331, this part of description was moved to informative Annex. Even if this section provides an informative description on a rather high level, this topic should be covered in normative sections in the RAN/GERAN specifications. Therefore it is proposed to remove this note. In informative clause B.6 there is a Note with a reference to TSG GERAN. This Note was introduced, when this part description was still in the normative section of TS 25.331. After reorganization of TS 25.331 this part of description was moved to informative Annex. Even if this section provides an informative description on a rather high level, this topic should be covered in normative sections in the RAN/GERAN specifications. Therefore it is proposed to remove this note. In informative clause B.6.1 there is a FFS (for further study) regarding the temporary block flow to GSM/GPRS in case of Inter-RAT handover failure. In clause "8.3.7.5 UE fails to complete requested handover", it is clearly stated, that UE shall revert back to UTRA configuration, if the UE does not succeed in establishing the connection to the target radio access technology. Even if B.6.1 is only informative, any misleading information about establishment of "temporary block flow" shall be removed, since a different mandatory behaviour is covered by clause 8.3.7.5.
Summary of change: ⌘	Abbreviation for FFS in 3.2 is removed. Note in 10.3.1.3 is removed. Note in 10.3.5.23 is removed FFS in B.3.4.3 is removed Note in B.6 is removed In B.6.1, informative description about temporary block flow, in case of Inter-RAT handover failure is removed.
Consequences if not approved: ⌘	FFS and references to other working groups still would pretend, that major changes in the affected clauses and therefore in corresponding procedures are to be expected.

	Informative clause B.6.1 is in contradiction to mandatory clause 8.3.7.5.

Clauses affected:	⌘	3.2, 10.3.1.3, 10.3.5.23, B.3.4.3, B.6, B.6.1			
		Y	**N**		
Other specs affected:	⌘		**X**	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

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[...]

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
CCCH	Common Control Channel
CCPCH	Common Control Physical CHannel
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CM	Connection Management
CN	Core Network
CPCH	Common Packet CHannel
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CTFC	Calculated Transport Format Combination
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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
IE	Information element
IETF	Internet Engineering Task Force
IMEI	International Mobile Equipment Identity
IMSI	International Mobile Subscriber Identity
IP	Internet Protocol
ISCP	Interference on Signal Code Power
L1	Layer 1
L2	Layer 2
L3	Layer 3
LAI	Location Area Identity
MAC	Media Access Control
MCC	Mobile Country Code
MD	Mandatory default
MM	Mobility Management
MNC	Mobile Network Code
MP	Mandatory present

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
RACH	Random Access CHannel
RAI	Routing Area Identity
RAT	Radio Access Technology
RB	Radio Bearer
RFE	Routing Functional Entity
RL	Radio Link
RLC	Radio Link Control
RNC	Radio Network Controller
RNTI	Radio Network Temporary Identifier
RRC	Radio Resource Control
RSCP	Received Signal Code Power
RSSI	Received Signal Strength Indicator
SAP	Service Access Point
SCFE	Shared Control Function Entity
SCTD	Space Code Transmit Diversity
SF	Spreading Factor
SHCCH	Shared Control Channel
SIR	Signal to Interference Ratio
S-RNTI	SRNC - RNTI
SSDT	Site Selection Diversity Transmission
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

[...]

10.3.1.3 CN Information info

Information Element/Group name	Need	Multi	Type and reference	Semantics description
PLMN identity	OP		PLMN identity 10.3.1.11	
CN common GSM-MAP NAS system information	OP		NAS system information (GSM-MAP) 10.3.1.9	
CN domain related information	OP	1 to <maxCNdomains>		
>CN domain identity	MP		CN domain identity 10.3.1.1	
>CN domain specific GSM-MAP NAS system info	MP		NAS system information (GSM-MAP) 10.3.1.9	

~~NOTE: Necessity of PLMN is FFS and for CN domain identity and NAS system information, the confirmation in SA WG2 is needed.~~

[...]

10.3.5.23 Transport Format Set

Information Element/Group name	Need	Multi	Type and reference	Semantics description
CHOICE *Transport channel type*	MP			
>Dedicated transport channels				The transport channel that is configured with this TFS is of type DCH
>>Dynamic Transport Format Information	MP	1 to <maxTF>		
>>>RLC Size	MP		Integer(0..4992)	Unit is bits
>>>Number of TBs and TTI List	MP	1 to <maxTF>		Present for every valid number of TB's (and TTI) for this RLC Size.
>>>>Transmission Time Interval	CV-*dynamicTTI*		Integer(10,20,40,80)	Unit is ms.
>>>>Number of Transport blocks	MP		Integer(0..512)	
>>>CHOICE *Logical Channel List*	MP			The logical channels that are allowed to use this RLC Size
>>>>ALL			Null	All logical channels mapped to this transport channel.
>>>>Configured			Null	The logical channels configured to use this RLC size in the *RB mapping info*. 10.3.4.21 if present in this message or in the previously stored configuration otherwise
>>>>Explicit List		1 to 15		Lists the logical channels that are allowed to use this RLC size.
>>>>>RB Identity	MP		RB identity 10.3.4.16	

Information Element/Group name	Need	Multi	Type and reference	Semantics description
>>>>>LogicalChannel	CH-*UL-RLCLogicalChannels*		Integer(0..1)	Indicates the relevant UL logical channel for this RB. "0" corresponds to the first, "1" corresponds to the second UL logical channel configured for this RB in the IE "RB mapping info".
>>Semi-static Transport Format Information	MP		Semi-static Transport Format Information 10.3.5.11	
>Common transport channels				The transport channel that is configured with this TFS is of a type not equal to DCH
>>Dynamic Transport Format Information	MP	1 to <maxTF>		Note
>>>RLC Size	MP		Integer(0..4992)	Unit is bits
>>>Number of TBs and TTI List	MP	1 to <maxTF>		Present for every valid number of TB's (and TTI) for this RLC Size.
>>>>Number of Transport blocks	MP		Integer(0..512)	
>>>>CHOICE *mode*	MP			
>>>>>FDD				(no data)
>>>>>TDD				
>>>>>>Transmission Time Interval	CV-*dynamicTTI*		Integer(10,20,40,80)	Unit is ms.
>>>CHOICE *Logical Channel List*	MP			The logical channels that are allowed to use this RLC Size.
>>>>ALL			Null	All logical channels mapped to this transport channel.
>>>>Configured			Null	The logical channels configured to use this RLC size in the *RB mapping info*. 10.3.4.21 if present in this message or in the previously stored configuration otherwise
>>>>Explicit List		1 to 15		Lists the logical channels that are allowed to use this RLC size.
>>>>>RB Identity	MP		RB identity 10.3.4.16	
>>>>>LogicalChannel	CV-*UL-RLCLogicalChannels*		Integer(0..1)	Indicates the relevant UL logical channel for this RB. "0" corresponds to the first, "1" corresponds to the second UL logical channel configured for this RB in the IE "RB mapping info".
>>Semi-static Transport Format Information	MP		Semi-static Transport Format Information 10.3.5.11	

Condition	Explanation
dynamicTTI	This IE is mandatory present if dynamic TTI usage is indicated in IE Transmission Time Interval in Semi-static Transport Format Information. Otherwise it is not needed.

UL-RLCLogicalChannels	If "Number of uplink RLC logical channels" in IE "RB mapping info" in this message is 2 or the IE "RB mapping info" is not present in this message and 2 UL logical channels are configured for this RB, then this IE is mandatory present. Otherwise this IE is not needed.

~~NOTE: The parameter "rate matching attribute" is in line with the RAN WG1 specifications. However, it is not currently in line with the description in [34].~~

[...]

B.3.4.3 RRC Connection mobility tasks (URA_PCH)

In URA_PCH State the location of a UE is known on UTRAN Registration area level.

In this state, the UE mobility is performed through URA reselection procedures, which may differ from the definitions in [4]. The UE performs cell reselection and upon selecting a new UTRA cell belonging to a URA that does not match the URA used by the UE, the UE moves to CELL_FACH state and initiates a URA update towards the network. After the URA update procedure has been performed, the UE changes its state back to URA_PCH state if neither the UE nor the network has any more data to transmit.

Upon selecting a new cell belonging to another radio access system than UTRA, the UE enters idle mode and makes an access to that system according to its specifications ~~(FFS)~~.

[...]

B.6 Inter-RAT handover with simultaneous PS and CS domain services

~~NOTE: This is an initial assumption that needs to be seen by TSG GERAN and requires checking by TSG GERAN, when the work on this item has progressed.~~

B.6.1 Inter-RAT handover UTRAN to GSM / BSS

For a UE in CELL_DCH state using both CS and PS Domain services the Inter-RAT handover procedure is based on measurement reports from the UE but initiated from UTRAN.

The UE performs the Inter-RAT handover from UTRA RRC Connected Mode to GSM Connected Mode first. When the UE has sent handover complete message to GSM / BSS the UE initiates a temporary block flow towards GPRS and sends a RA update request.

If the Inter-RAT handover from UTRA RRC Connected Mode to GSM Connected Mode was successful the handover is considered as successful regardless if the UE was able to establish a temporary block flow or not towards GPRS.

In case of Inter-RAT handover failure the UE has the possibility to go back to UTRA RRC Connected Mode and re-establish the connection in the state it originated from. ~~without attempting to establish a temporary block flow. If the UE has the option to try to establish a temporary block flow towards GSM / GPRS after Inter-RAT handover failure is FFS.~~

3GPP TSG-RAN WG2 Meeting #36 **⌘*R2-031304***
Paris, France, May 19 – 23, 2003

CR-Form-v7

CHANGE REQUEST

⌘ **25.331** **CR** **1921** ⌘ **rev** **-** ⌘ Current version: **4.9.0** ⌘

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

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

Title:	⌘	Removal of FFS (For further Study) and references to other working groups		
Source:	⌘	RAN WG2		
Work item code:	⌘	TEI	***Date:*** ⌘	21/05/2003
Category:	⌘	**A**	***Release:*** ⌘	Rel-4

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
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Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
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R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change: ⌘

In clause "3.2 Abbreviations", there is an Abbreviation for "For Further Study", which is not needed anymore and could lead to the assumption, that there are still issues in the specification, which are for further study.

It is proposed to remove this abbreviation without substitution.

In clause "10.3.1.3 CN Information info", there is a note

> "NOTE: Necessity of PLMN is FFS and for CN domain identity and NAS system information, the confirmation in SA WG2 is needed",

which was introduced by RAN2#5 while enhancing "Cell Update Confirm" message, for the reason

> "when also broadcast it remains unclear why they are also included in a dedicated channel message. An "ffs" shall be added until clarification is available."

This Note is still present, so not further studies seem do have been done. But since introduction of this note, many information elements were restructured and also sending of IEs mentioned above was made optional. So from the protocol point of view, there is no need to keep this note, but for reason of clarity it should be removed without substitution.

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Consequences if not approved: ⌘	FFS and references to other working groups still would pretend, that major changes in the affected clauses and therefore in corresponding procedures are to be expected.

	Informative clause B.6.1 is in contradiction to mandatory clause 8.3.7.5.

Clauses affected:	⌘	3.2, 10.3.1.3, 10.3.5.23, B.3.4.3, B.6, B.6.1			
		Y	**N**		
Other specs affected:	⌘		**X**	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

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IE	Information element
IETF	Internet Engineering Task Force
IMEI	International Mobile Equipment Identity
IMSI	International Mobile Subscriber Identity
IP	Internet Protocol
ISCP	Interference on Signal Code Power
L1	Layer 1
L2	Layer 2
L3	Layer 3
LAI	Location Area Identity
MAC	Media Access Control
MCC	Mobile Country Code
MD	Mandatory default
MM	Mobility Management
MNC	Mobile Network Code
MP	Mandatory present

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
RACH	Random Access CHannel
RAI	Routing Area Identity
RAT	Radio Access Technology
RB	Radio Bearer
RFE	Routing Functional Entity
RL	Radio Link
RLC	Radio Link Control
RNC	Radio Network Controller
RNTI	Radio Network Temporary Identifier
RRC	Radio Resource Control
RSCP	Received Signal Code Power
RSSI	Received Signal Strength Indicator
SAP	Service Access Point
SCFE	Shared Control Function Entity
SCTD	Space Code Transmit Diversity
SF	Spreading Factor
SHCCH	Shared Control Channel
SIR	Signal to Interference Ratio
S-RNTI	SRNC - RNTI
SSDT	Site Selection Diversity Transmission
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

[...]

10.3.1.3 CN Information info

Information Element/Group name	Need	Multi	Type and reference	Semantics description
PLMN identity	OP		PLMN identity 10.3.1.11	
CN common GSM-MAP NAS system information	OP		NAS system information (GSM-MAP) 10.3.1.9	
CN domain related information	OP	1 to <maxCNdomains>		
>CN domain identity	MP		CN domain identity 10.3.1.1	
>CN domain specific GSM-MAP NAS system info	MP		NAS system information (GSM-MAP) 10.3.1.9	

~~NOTE: Necessity of PLMN is FFS and for CN domain identity and NAS system information, the confirmation in SA WG2 is needed.~~

[...]

10.3.5.23 Transport Format Set

Information Element/Group name	Need	Multi	Type and reference	Semantics description
CHOICE *Transport channel type*	MP			
>Dedicated transport channels				The transport channel that is configured with this TFS is of type DCH
>>Dynamic Transport Format Information	MP	1 to <maxTF>		
>>>RLC Size	MP		Integer(0..4992)	Unit is bits
>>>Number of TBs and TTI List	MP	1 to <maxTF>		Present for every valid number of TB's (and TTI) for this RLC Size.
>>>>Transmission Time Interval	CV-*dynamicTTI*		Integer(10,20,40,80)	Unit is ms.
>>>>Number of Transport blocks	MP		Integer(0..512)	
>>>CHOICE *Logical Channel List*	MP			The logical channels that are allowed to use this RLC Size
>>>>ALL			Null	All logical channels mapped to this transport channel.
>>>>Configured			Null	The logical channels configured to use this RLC size in the *RB mapping info*. 10.3.4.21 if present in this message or in the previously stored configuration otherwise
>>>>Explicit List		1 to 15		Lists the logical channels that are allowed to use this RLC size.
>>>>>RB Identity	MP		RB identity 10.3.4.16	

Information Element/Group name	Need	Multi	Type and reference	Semantics description
>>>>>LogicalChannel	CH-*UL-RLCLogicalChannels*		Integer(0..1)	Indicates the relevant UL logical channel for this RB. "0" corresponds to the first, "1" corresponds to the second UL logical channel configured for this RB in the IE "RB mapping info".
>>Semi-static Transport Format Information	MP		Semi-static Transport Format Information 10.3.5.11	
>Common transport channels				The transport channel that is configured with this TFS is of a type not equal to DCH
>>Dynamic Transport Format Information	MP	1 to <maxTF>		Note
>>>RLC Size	MP		Integer(0..4992)	Unit is bits
>>>Number of TBs and TTI List	MP	1 to <maxTF>		Present for every valid number of TB's (and TTI) for this RLC Size.
>>>>Number of Transport blocks	MP		Integer(0..512)	
>>>>CHOICE *mode*	MP			
>>>>>FDD				(no data)
>>>>>TDD				
>>>>>>Transmission Time Interval	CV-*dynamicTTI*		Integer(10,20,40,80)	Unit is ms.
>>>CHOICE *Logical Channel List*	MP			The logical channels that are allowed to use this RLC Size.
>>>>ALL			Null	All logical channels mapped to this transport channel.
>>>>Configured			Null	The logical channels configured to use this RLC size in the *RB mapping info*. 10.3.4.21 if present in this message or in the previously stored configuration otherwise
>>>>Explicit List		1 to 15		Lists the logical channels that are allowed to use this RLC size.
>>>>>RB Identity	MP		RB identity 10.3.4.16	
>>>>>LogicalChannel	CV-*UL-RLCLogicalChannels*		Integer(0..1)	Indicates the relevant UL logical channel for this RB. "0" corresponds to the first, "1" corresponds to the second UL logical channel configured for this RB in the IE "RB mapping info".
>>Semi-static Transport Format Information	MP		Semi-static Transport Format Information 10.3.5.11	

Condition	Explanation
dynamicTTI	This IE is mandatory present if dynamic TTI usage is indicated in IE Transmission Time Interval in Semi-static Transport Format Information. Otherwise it is not needed.

UL-RLCLogicalChannels	If "Number of uplink RLC logical channels" in IE "RB mapping info" in this message is 2 or the IE "RB mapping info" is not present in this message and 2 UL logical channels are configured for this RB, then this IE is mandatory present. Otherwise this IE is not needed.

~~NOTE: The parameter "rate matching attribute" is in line with the RAN WG1 specifications. However, it is not currently in line with the description in [34].~~

[...]

B.3.4.3 RRC Connection mobility tasks (URA_PCH)

In URA_PCH State the location of a UE is known on UTRAN Registration area level.

In this state, the UE mobility is performed through URA reselection procedures, which may differ from the definitions in [4]. The UE performs cell reselection and upon selecting a new UTRA cell belonging to a URA that does not match the URA used by the UE, the UE moves to CELL_FACH state and initiates a URA update towards the network. After the URA update procedure has been performed, the UE changes its state back to URA_PCH state if neither the UE nor the network has any more data to transmit.

Upon selecting a new cell belonging to another radio access system than UTRA, the UE enters idle mode and makes an access to that system according to its specifications ~~(FFS)~~.

[...]

B.6 Inter-RAT handover with simultaneous PS and CS domain services

~~NOTE: This is an initial assumption that needs to be seen by TSG GERAN and requires checking by TSG GERAN, when the work on this item has progressed.~~

B.6.1 Inter-RAT handover UTRAN to GSM / BSS

For a UE in CELL_DCH state using both CS and PS Domain services the Inter-RAT handover procedure is based on measurement reports from the UE but initiated from UTRAN.

The UE performs the Inter-RAT handover from UTRA RRC Connected Mode to GSM Connected Mode first. When the UE has sent handover complete message to GSM / BSS the UE initiates a temporary block flow towards GPRS and sends a RA update request.

If the Inter-RAT handover from UTRA RRC Connected Mode to GSM Connected Mode was successful the handover is considered as successful regardless if the UE was able to establish a temporary block flow or not towards GPRS.

In case of Inter-RAT handover failure the UE has the possibility to go back to UTRA RRC Connected Mode and re-establish the connection in the state it originated from. ~~without attempting to establish a temporary block flow. If the UE has the option to try to establish a temporary block flow towards GSM / GPRS after Inter-RAT handover failure is FFS.~~

3GPP TSG-RAN WG2 Meeting #36 ⌘***R2-031305***
Paris, France, May 19 – 23, 2003

CR-Form-v7

CHANGE REQUEST

⌘ **25.331** **CR** **1922** ⌘ **rev** **-** ⌘ Current version: **5.4.0** ⌘

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

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

Title:	⌘	Removal of FFS (For further Study) and references to other working groups			
Source:	⌘	RAN WG2			
Work item code:	⌘	TEI	***Date:***	⌘	21/05/2003
Category:	⌘	**A**	***Release:***	⌘	Rel-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change: ⌘

In clause "3.2 Abbreviations", there is an Abbreviation for "For Further Study", which is not needed anymore and could lead to the assumption, that there are still issues in the specification, which are for further study.

It is proposed to remove this abbreviation without substitution.

In clause "10.3.1.3 CN Information info", there is a note

> "NOTE: Necessity of PLMN is FFS and for CN domain identity and NAS system information, the confirmation in SA WG2 is needed",

which was introduced by RAN2#5 while enhancing "Cell Update Confirm" message, for the reason

> "when also broadcast it remains unclear why they are also included in a dedicated channel message. An "ffs" shall be added until clarification is available."

This Note is still present, so not further studies seem do have been done. But since introduction of this note, many information elements were restructured and also sending of IEs mentioned above was made optional. So from the protocol point of view, there is no need to keep this note, but for reason of clarity it should be removed without substitution.

In clause "10.3.5.23 Transport Format Set ", there is a note

	" NOTE: The parameter "rate matching attribute" is in line with the RAN WG1 specifications. However, it is not currently in line with the description in [34].", which was introduced by RAN2#5 while enhancing "Transport Format Set" IE message, for the reason, that rate matching attribute was described differently in TS 25.302. Even if the rate matching description in TS 25302 was aligned since version 300 of TS 25.302, this Note is still present. For reason of clarity the note should be removed without substitution. In informative clause B.3.4.3 there is a FFS (for further study). It was introduced, when this part description was still in the normative section of TS 25.331. After reorganization of TS 25.331, this part of description was moved to informative Annex. Even if this section provides an informative description on a rather high level, this topic should be covered in normative sections in the RAN/GERAN specifications. Therefore it is proposed to remove this note. In informative clause B.6 there is a Note with a reference to TSG GERAN. This Note was introduced, when this part description was still in the normative section of TS 25.331. After reorganization of TS 25.331 this part of description was moved to informative Annex. Even if this section provides an informative description on a rather high level, this topic should be covered in normative sections in the RAN/GERAN specifications. Therefore it is proposed to remove this note. In informative clause B.6.1 there is a FFS (for further study) regarding the temporary block flow to GSM/GPRS in case of Inter-RAT handover failure. In clause "8.3.7.5 UE fails to complete requested handover", it is clearly stated, that UE shall revert back to UTRA configuration, if the UE does not succeed in establishing the connection to the target radio access technology. Even if B.6.1 is only informative, any misleading information about establishment of "temporary block flow" shall be removed, since a different mandatory behaviour is covered by clause 8.3.7.5.
Summary of change: ⌘	Abbreviation for FFS in 3.2 is removed. Note in 10.3.1.3 is removed. Note in 10.3.5.23 is removed FFS in B.3.4.3 is removed Note in B.6 is removed In B.6.1, informative description about temporary block flow, in case of Inter-RAT handover failure is removed.
Consequences if not approved: ⌘	FFS and references to other working groups still would pretend, that major changes in the affected clauses and therefore in corresponding procedures are to be expected.

	Informative clause B.6.1 is in contradiction to mandatory clause 8.3.7.5.

Clauses affected:	⌘	3.2, 10.3.1.3, 10.3.5.23, B.3.4.3, B.6, B.6.1			
		Y	**N**		
Other specs affected:	⌘		**X**	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

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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.

[...]

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
CCCH	Common Control Channel
CCPCH	Common Control Physical CHannel
CH	Conditional on history
CM	Connection Management
CN	Core Network
CPCH	Common Packet CHannel
C-RNTI	Cell RNTI
CTCH	Common Traffic CHannel
CTFC	Calculated Transport Format Combination
CV	Conditional on value
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
IE	Information element
IETF	Internet Engineering Task Force
IMEI	International Mobile Equipment Identity
IMSI	International Mobile Subscriber Identity
IP	Internet Protocol
ISCP	Interference on Signal Code Power
L1	Layer 1
L2	Layer 2
L3	Layer 3
LAI	Location Area Identity
MAC	Media Access Control
MCC	Mobile Country Code
MD	Mandatory default
MM	Mobility Management
MNC	Mobile Network Code
MP	Mandatory present

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
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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
RACH	Random Access CHannel
RAI	Routing Area Identity
RAT	Radio Access Technology
RB	Radio Bearer
RFE	Routing Functional Entity
RL	Radio Link
RLC	Radio Link Control
RNC	Radio Network Controller
RNTI	Radio Network Temporary Identifier
RRC	Radio Resource Control
RSCP	Received Signal Code Power
RSSI	Received Signal Strength Indicator
SAP	Service Access Point
SCFE	Shared Control Function Entity
SCTD	Space Code Transmit Diversity
SF	Spreading Factor
SHCCH	Shared Control Channel
SIR	Signal to Interference Ratio
S-RNTI	SRNC - RNTI
SSDT	Site Selection Diversity Transmission
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

[...]

10.3.1.3 CN Information info

Information Element/Group name	Need	Multi	Type and reference	Semantics description
PLMN identity	OP		PLMN identity 10.3.1.11	
CN common GSM-MAP NAS system information	OP		NAS system information (GSM-MAP) 10.3.1.9	
CN domain related information	OP	1 to <maxCNdomains>		
>CN domain identity	MP		CN domain identity 10.3.1.1	
>CN domain specific GSM-MAP NAS system info	MP		NAS system information (GSM-MAP) 10.3.1.9	

~~NOTE: Necessity of PLMN is FFS and for CN domain identity and NAS system information, the confirmation in SA WG2 is needed.~~

[...]

10.3.5.23 Transport Format Set

Information Element/Group name	Need	Multi	Type and reference	Semantics description
CHOICE *Transport channel type*	MP			
>Dedicated transport channels				The transport channel that is configured with this TFS is of type DCH
>>Dynamic Transport Format Information	MP	1 to <maxTF>		
>>>RLC Size	MP		Integer(0..4992)	Unit is bits
>>>Number of TBs and TTI List	MP	1 to <maxTF>		Present for every valid number of TB's (and TTI) for this RLC Size.
>>>>Transmission Time Interval	CV-*dynamicTTI*		Integer(10,20,40,80)	Unit is ms.
>>>>Number of Transport blocks	MP		Integer(0..512)	
>>>CHOICE *Logical Channel List*	MP			The logical channels that are allowed to use this RLC Size
>>>>ALL			Null	All logical channels mapped to this transport channel.
>>>>Configured			Null	The logical channels configured to use this RLC size in the *RB mapping info*. 10.3.4.21 if present in this message or in the previously stored configuration otherwise
>>>>Explicit List		1 to 15		Lists the logical channels that are allowed to use this RLC size.
>>>>>RB Identity	MP		RB identity 10.3.4.16	

Information Element/Group name	Need	Multi	Type and reference	Semantics description
>>>>>LogicalChannel	CH-*UL-RLCLogicalChannels*		Integer(0..1)	Indicates the relevant UL logical channel for this RB. "0" corresponds to the first, "1" corresponds to the second UL logical channel configured for this RB in the IE "RB mapping info".
>>Semi-static Transport Format Information	MP		Semi-static Transport Format Information 10.3.5.11	
>Common transport channels				The transport channel that is configured with this TFS is of a type not equal to DCH
>>Dynamic Transport Format Information	MP	1 to <maxTF>		Note
>>>RLC Size	MP		Integer(0..4992)	Unit is bits
>>>Number of TBs and TTI List	MP	1 to <maxTF>		Present for every valid number of TB's (and TTI) for this RLC Size.
>>>>Number of Transport blocks	MP		Integer(0..512)	
>>>>CHOICE *mode*	MP			
>>>>>FDD				(no data)
>>>>>TDD				
>>>>>>Transmission Time Interval	CV-*dynamicTTI*		Integer(10,20,40,80)	Unit is ms.
>>>CHOICE *Logical Channel List*	MP			The logical channels that are allowed to use this RLC Size.
>>>>ALL			Null	All logical channels mapped to this transport channel.
>>>>Configured			Null	The logical channels configured to use this RLC size in the *RB mapping info*. 10.3.4.21 if present in this message or in the previously stored configuration otherwise
>>>>Explicit List		1 to 15		Lists the logical channels that are allowed to use this RLC size.
>>>>>RB Identity	MP		RB identity 10.3.4.16	
>>>>>LogicalChannel	CV-*UL-RLCLogicalChannels*		Integer(0..1)	Indicates the relevant UL logical channel for this RB. "0" corresponds to the first, "1" corresponds to the second UL logical channel configured for this RB in the IE "RB mapping info".
>>Semi-static Transport Format Information	MP		Semi-static Transport Format Information 10.3.5.11	

Condition	Explanation
dynamicTTI	This IE is mandatory present if dynamic TTI usage is indicated in IE Transmission Time Interval in Semi-static Transport Format Information. Otherwise it is not needed.

UL-RLCLogicalChannels	If "Number of uplink RLC logical channels" in IE "RB mapping info" in this message is 2 or the IE "RB mapping info" is not present in this message and 2 UL logical channels are configured for this RB, then this IE is mandatory present. Otherwise this IE is not needed.

~~NOTE: The parameter "rate matching attribute" is in line with the RAN WG1 specifications. However, it is not currently in line with the description in [34].~~

[...]

B.3.4.3 RRC Connection mobility tasks (URA_PCH)

In URA_PCH State the location of a UE is known on UTRAN Registration area level.

In this state, the UE mobility is performed through URA reselection procedures, which may differ from the definitions in [4]. The UE performs cell reselection and upon selecting a new UTRA cell belonging to a URA that does not match the URA used by the UE, the UE moves to CELL_FACH state and initiates a URA update towards the network. After the URA update procedure has been performed, the UE changes its state back to URA_PCH state if neither the UE nor the network has any more data to transmit.

Upon selecting a new cell belonging to another radio access system than UTRA, the UE enters idle mode and makes an access to that system according to its specifications ~~(FFS)~~.

[...]

B.6 Inter-RAT handover with simultaneous PS and CS domain services

~~NOTE: This is an initial assumption that needs to be seen by TSG GERAN and requires checking by TSG GERAN, when the work on this item has progressed.~~

B.6.1 Inter-RAT handover UTRAN to GSM / BSS

For a UE in CELL_DCH state using both CS and PS Domain services the Inter-RAT handover procedure is based on measurement reports from the UE but initiated from UTRAN.

The UE performs the Inter-RAT handover from UTRA RRC Connected Mode to GSM Connected Mode first. When the UE has sent handover complete message to GSM / BSS the UE initiates a temporary block flow towards GPRS and sends a RA update request.

If the Inter-RAT handover from UTRA RRC Connected Mode to GSM Connected Mode was successful the handover is considered as successful regardless if the UE was able to establish a temporary block flow or not towards GPRS.

In case of Inter-RAT handover failure the UE has the possibility to go back to UTRA RRC Connected Mode and re-establish the connection in the state it originated from. ~~without attempting to establish a temporary block flow. If the UE has the option to try to establish a temporary block flow towards GSM / GPRS after Inter-RAT handover failure is FFS.~~

3GPP TSG-RAN2 Meeting #36
Paris, France, May 15th-16th, 2003

Tdoc ⌘R2-031308

CR-Form-v7

CHANGE REQUEST

⌘ **25.331** **CR** **1924** ⌘ **rev** **-** ⌘ Current version: **3.14.0** ⌘

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

Proposed change affects: UICC apps⌘ [ ] ME [X] Radio Access Network [X] Core Network [ ]

Title:	⌘	Key handling when entering idle mode and coding of security capabilities
Source:	⌘	RAN WG2
Work item code:	⌘	TEI
Date:	⌘	22 May 2003
Category:	⌘	**F**
Release:	⌘	R99

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	1) An erroneous indentation was introduced in WG#34 by CR 1853 2) Due to misalignments between tabular and the ASN.1, the coding of security capabilities is unclear
Summary of change:	⌘	1) The indentation is corrected 2) The security capability IEs are defined as a list of booleans in the tabular but implemented as a BIT STRING in ASN.1. Clarification concerning the encoding of the bits in the bit string is neither provided in the tabular nor in the ASN.1. The clearest solution would be to align ASN.1 to the tabular (sequence of booleans), but at this stage changes to the tabular and the ASN.1 should be limited. Therefore the proposal is to add a comment into the ASN.1 clarifying that for each bit value 0 means the capability represented by the corresponding bit is "not supported".
Consequences if not approved:	⌘	If the CR is not implemented the ciphering and integrity keys in the UE would be deleted each time the UE enters idle mode which is not intended. This implies that an authentication needs to be performed each time the UE enters RRC connected mode. Furthermore, UTRAN may misinterpret the security capabilities supported by the UE **Impact analysis:**

	Impacted functionality: deletion of keys when the UE enters idle mode and coding of security capabilities. Correction type: Clarification of a function where the specification is incomplete, ambiguous and/ or inconsistent. Does not affect implementations behaving like indicated in the CR, would affect implementations supporting the corrected functionality otherwise Interoperability: • Isolated impact: the impact is isolated; only the corrected functionality is affected • The CR may have UE impact, although this is unlikely. The 1st change has no UTRAN impact, while the 2nd change may have UTRAN impact although it is unlikely UTRAN has implemented it incorrectly. • CR implemented only by UTRAN: In the unlikely event that the UE does not behave as specified by this CR, an authentication needs to be performed each time the UE enters RRC connected mode. However, no interoperability problems are foreseen, also considering the security algorithms currently to be supported by the UE • CR implemented only by the UE: for the same reasons as indicated above, no interoperability problems are foreseen

Clauses affected:	⌘	8.5.2, 11.3			
		Y	**N**		
Other specs affected:	⌘		**X**	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

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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.

8.5.2 Actions when entering idle mode from connected mode

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

1> clear or set variables upon leaving UTRA RRC connected mode as specified in subclause 13.4;

1> attempt to select a suitable cell to camp on.

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

1> perform cell selection.

While camping on a cell, the UE shall:

1> acquire system information according to the system information procedure in subclause 8.1;

1> perform measurements according to the measurement control procedure specified in subclause 8.4; and

1> if the UE is registered:

2> 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:

1> delete any NAS system information received in connected mode;

1> acquire the NAS system information in system information block type 1; and

1> proceed according to subclause 8.6.1.2.

When entering idle mode, the UE shall:

1> if the USIM is present, for each CN domain:

2> if a new security key set was received for this CN domain but was not used either for integrity protection or ciphering during this RRC connection:

3> set the START value for this domain to zero; and

3> store this START value for this domain in the USIM.

2> else:

3> if the current "START" value, according to subclause 8.5.9 for a CN domain, is greater than or equal to the value "THRESHOLD" of the variable START_THRESHOLD:

4> delete the ciphering and integrity keys that are stored in the USIM for that CN domain;

4> inform the deletion of these keys to upper layers.

3> else:

4> store the current "START" value for this CN domain on the USIM.

1> else:

2> if the SIM is present, for each CN domain:

3> if a new security key set was received for this CN domain but was not used either for integrity protection or ciphering during this RRC connection, the UE should:

4> set the START value for this domain to zero; and

4> store this START value for this domain in the UE.

3> else, the UE shall:

4> if the current "START" value, according to subclause 8.5.9 for this CN domain, is greater than or equal to the value "THRESHOLD" of the variable START_THRESHOLD:

5> delete the Kc key for this CN domain;

54> delete the ciphering and integrity keys that are stored in the UE for that CN domain;

[Note to editor: changed indentation]

5> set the "START" values for this CN domain to zero and store it in the UE;

5> inform the deletion of the key to upper layers.

4> else:

5> store the current "START" value for this CN domain in the UE.

11.3 Information element definitions

```
<Cut until the next modified section>
-- **************************************************
--
--     USER EQUIPMENT INFORMATION ELEMENTS (10.3.3)
--
-- **************************************************

<Cut until the next modified section>

SecurityCapability ::=              SEQUENCE {
    cipheringAlgorithmCap               BIT STRING {
                                        -- For each bit value "0" means false/ not supported
                                            spare15(0),
                                            spare14(1),
                                            spare13(2),
                                            spare12(3),
                                            spare11(4),
                                            spare10(5),
                                            spare9(6),
                                            spare8(7),
                                            spare7(8),
                                            spare6(9),
                                            spare5(10),
                                            spare4(11),
                                            spare3(12),
                                            spare2(13),
                                            uea1(14),
                                            uea0(15)
                                            }   (SIZE (16)),

IntegrityProtectionAlgorithmCap     BIT STRING {
                                        -- For each bit value "0" means false/ not supported
                                            spare15(0),
                                            spare14(1),
                                            spare13(2),
                                            spare12(3),
                                            spare11(4),
                                            spare10(5),
                                            spare9(6),
                                            spare8(7),
                                            spare7(8),
                                            spare6(9),
                                            spare5(10),
                                            spare4(11),
                                            spare3(12),
                                            spare2(13),
                                            uia1(14),
                                            spare0(15)
                                            }   (SIZE (16))
}

<Cut until the next modified section>

-- **************************************************
--
--     OTHER INFORMATION ELEMENTS (10.3.8)
--
-- **************************************************

<Cut until the next modified section>

GsmSecurityCapability ::=           BIT STRING {
                                        -- For each bit value "0" means false/ not supported
                                        a5-7(0),
                                        a5-6(1),
                                        a5-5(2),
                                        a5-4(3),
                                        a5-3(4),
                                        a5-2(5),
                                        a5-1(6)
                                        }   (SIZE (7))
```

3GPP TSG-RAN2 Meeting #36
Paris, France, May 15th-16th, 2003

Tdoc ⌘R2-031309

CR-Form-v7

CHANGE REQUEST

⌘ **25.331** **CR** **1925** ⌘ **rev** **-** ⌘ Current version: **4.9.0** ⌘

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

Proposed change affects: UICC apps⌘ [ ] ME [X] Radio Access Network [X] Core Network [ ]

Title:	⌘	Key handling when entering idle mode and coding of security capabilities
Source:	⌘	RAN WG2
Work item code:	⌘	TEI
Date:	⌘	22 May 2003
Category:	⌘	**A**
Release:	⌘	Rel-4

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	1) An erroneous indentation was introduced in WG#34 by CR 1853 2) Due to misalignments between tabular and the ASN.1, the coding of security capabilities is unclear
Summary of change:	⌘	1) The indentation is corrected 2) The security capability IEs are defined as a list of booleans in the tabular but implemented as a BIT STRING in ASN.1. Clarification concerning the encoding of the bits in the bit string is neither provided in the tabular nor in the ASN.1. The clearest solution would be to align ASN.1 to the tabular (sequence of booleans), but at this stage changes to the tabular and the ASN.1 should be limited. Therefore the proposal is to add a comment into the ASN.1 clarifying that for each bit value 0 means the capability represented by the corresponding bit is "not supported".
Consequences if not approved:	⌘	If the CR is not implemented the ciphering and integrity keys in the UE would be deleted each time the UE enters idle mode which is not intended. This implies that an authentication needs to be performed each time the UE enters RRC connected mode. Furthermore, UTRAN may misinterpret the security capabilities supported by the UE **Impact analysis:**

	Impacted functionality: deletion of keys when the UE enters idle mode and coding of security capabilities. Correction type: Clarification of a function where the specification is incomplete, ambiguous and/ or inconsistent. Does not affect implementations behaving like indicated in the CR, would affect implementations supporting the corrected functionality otherwise Interoperability: • Isolated impact: the impact is isolated; only the corrected functionality is affected • The CR may have UE impact, although this is unlikely. The 1st change has no UTRAN impact, while the 2nd change may have UTRAN impact although it is unlikely UTRAN has implemented it incorrectly. • CR implemented only by UTRAN: In the unlikely event that the UE does not behave as specified by this CR, an authentication needs to be performed each time the UE enters RRC connected mode. However, no interoperability problems are foreseen, also considering the security algorithms currently to be supported by the UE • CR implemented only by the UE: for the same reasons as indicated above, no interoperability problems are foreseen

Clauses affected:	⌘	8.5.2, 11.3			
		Y	**N**		
Other specs affected:	⌘		**X**	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

How to create CRs using this form:

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

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

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

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

8.5.2 Actions when entering idle mode from connected mode

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

1> clear or set variables upon leaving UTRA RRC connected mode as specified in subclause 13.4;

1> attempt to select a suitable cell to camp on.

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

1> perform cell selection.

While camping on a cell, the UE shall:

1> acquire system information according to the system information procedure in subclause 8.1;

1> perform measurements according to the measurement control procedure specified in subclause 8.4; and

1> if the UE is registered:

2> 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:

1> delete any NAS system information received in connected mode;

1> acquire the NAS system information in system information block type 1; and

1> proceed according to subclause 8.6.1.2.

When entering idle mode, the UE shall:

1> if the USIM is present, for each CN domain:

2> if a new security key set was received for this CN domain but was not used either for integrity protection or ciphering during this RRC connection:

3> set the START value for this domain to zero; and

3> store this START value for this domain in the USIM.

2> else:

3> if the current "START" value, according to subclause 8.5.9 for a CN domain, is greater than or equal to the value "THRESHOLD" of the variable START_THRESHOLD:

4> delete the ciphering and integrity keys that are stored in the USIM for that CN domain;

4> inform the deletion of these keys to upper layers.

3> else:

4> store the current "START" value for this CN domain on the USIM.

1> else:

2> if the SIM is present, for each CN domain:

3> if a new security key set was received for this CN domain but was not used either for integrity protection or ciphering during this RRC connection:

4> set the START value for this domain to zero; and

4> store this START value for this domain in the UE

3> else:

4> if the current "START" value, according to subclause 8.5.9 for this CN domain, is greater than or equal to the value "THRESHOLD" of the variable START_THRESHOLD:

5> delete the Kc key for this CN domain;

54> delete the ciphering and integrity keys that are stored in the UE for that CN domain.

[Note to editor: Indentation has been changed]

5> set the "START" values for this CN domain to zero and store it the UE;

5> inform the deletion of the key to upper layers.

4> else:

5> store the current "START" value for this CN domain in the UE.

11.3 Information element definitions

```
<Cut until the next modified section>
-- **************************************************
--
--     USER EQUIPMENT INFORMATION ELEMENTS (10.3.3)
--
-- **************************************************

<Cut until the next modified section>

SecurityCapability ::=              SEQUENCE {
    cipheringAlgorithmCap               BIT STRING {
                                        -- For each bit value "0" means false/ not supported
                                            spare15(0),
                                            spare14(1),
                                            spare13(2),
                                            spare12(3),
                                            spare11(4),
                                            spare10(5),
                                            spare9(6),
                                            spare8(7),
                                            spare7(8),
                                            spare6(9),
                                            spare5(10),
                                            spare4(11),
                                            spare3(12),
                                            spare2(13),
                                            uea1(14),
                                            uea0(15)
                                            }   (SIZE (16)),

IntegrityProtectionAlgorithmCap     BIT STRING {
                                        -- For each bit value "0" means false/ not supported
                                            spare15(0),
                                            spare14(1),
                                            spare13(2),
                                            spare12(3),
                                            spare11(4),
                                            spare10(5),
                                            spare9(6),
                                            spare8(7),
                                            spare7(8),
                                            spare6(9),
                                            spare5(10),
                                            spare4(11),
                                            spare3(12),
                                            spare2(13),
                                            uia1(14),
                                            spare0(15)
                                            }   (SIZE (16))
}

<Cut until the next modified section>

-- **************************************************
--
--     OTHER INFORMATION ELEMENTS (10.3.8)
--
-- **************************************************

<Cut until the next modified section>

GsmSecurityCapability ::=           BIT STRING {
                                        -- For each bit value "0" means false/ not supported
                                        a5-7(0),
                                        a5-6(1),
                                        a5-5(2),
                                        a5-4(3),
                                        a5-3(4),
                                        a5-2(5),
                                        a5-1(6)
                                        }   (SIZE (7))
```

3GPP TSG-RAN2 Meeting #36
Paris, France, May 15th-16th, 2003

Tdoc ⌘R2-031310

CR-Form-v7

CHANGE REQUEST

⌘ **25.331** **CR** **1926** ⌘ **rev** **-** ⌘ Current version: **5.3.0** ⌘

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

Proposed change affects: UICC apps⌘ [ ] ME [X] Radio Access Network [X] Core Network [ ]

Title:	⌘	Key handling when entering idle mode and coding of security capabilities
Source:	⌘	RAN WG2
Work item code:	⌘	TEI
Date:	⌘	22 May 2003
Category:	⌘	**A**
Release:	⌘	Rel-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	1) An erroneous indentation was introduced in WG#34 by CR 1853 2) Due to misalignments between tabular and the ASN.1, the coding of security capabilities is unclear
Summary of change:	⌘	1) The indentation is corrected 2) The security capability IEs are defined as a list of booleans in the tabular but implemented as a BIT STRING in ASN.1. Clarification concerning the encoding of the bits in the bit string is neither provided in the tabular nor in the ASN.1. The clearest solution would be to align ASN.1 to the tabular (sequence of booleans), but at this stage changes to the tabular and the ASN.1 should be limited. Therefore the proposal is to add a comment into the ASN.1 clarifying that for each bit value 0 means the capability represented by the corresponding bit is "not supported".
Consequences if not approved:	⌘	If the CR is not implemented the ciphering and integrity keys in the UE would be deleted each time the UE enters idle mode which is not intended. This implies that an authentication needs to be performed each time the UE enters RRC connected mode. Furthermore, UTRAN may misinterpret the security capabilities supported by the UE **Impact analysis:**

	Impacted functionality: deletion of keys when the UE enters idle mode and coding of security capabilities. Correction type: Clarification of a function where the specification is incomplete, ambiguous and/ or inconsistent. Does not affect implementations behaving like indicated in the CR, would affect implementations supporting the corrected functionality otherwise Interoperability: • Isolated impact: the impact is isolated; only the corrected functionality is affected • The CR may have UE impact, although this is unlikely. The 1st change has no UTRAN impact, while the 2nd change may have UTRAN impact although it is unlikely UTRAN has implemented it incorrectly. • CR implemented only by UTRAN: In the unlikely event that the UE does not behave as specified by this CR, an authentication needs to be performed each time the UE enters RRC connected mode. However, no interoperability problems are foreseen, also considering the security algorithms currently to be supported by the UE • CR implemented only by the UE: for the same reasons as indicated above, no interoperability problems are foreseen

Clauses affected:	⌘	8.5.2, 11.3			
		Y	**N**		
Other specs affected:	⌘		**X**	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

How to create CRs using this form:

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

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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.

8.5.2 Actions when entering idle mode from connected mode

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

1> clear or set variables upon leaving UTRA RRC connected mode as specified in subclause 13.4;

1> attempt to select a suitable cell to camp on.

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

1> perform cell selection.

While camping on a cell, the UE shall:

1> acquire system information according to the system information procedure in subclause 8.1;

1> perform measurements according to the measurement control procedure specified in subclause 8.4; and

1> if the UE is registered:

2> 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:

1> delete any NAS system information received in connected mode;

1> acquire the NAS system information in system information block type 1; and

1> proceed according to subclause 8.6.1.2.

When entering idle mode, the UE shall:

1> if the USIM is present, for each CN domain:

2> if a new security key set was received for this CN domain but was not used either for integrity protection or ciphering during this RRC connection:

3> set the START value for this domain to zero; and

3> store this START value for this domain in the USIM.

2> else:

3> if the current "START" value, according to subclause 8.5.9 for a CN domain, is greater than or equal to the value "THRESHOLD" of the variable START_THRESHOLD:

4> delete the ciphering and integrity keys that are stored in the USIM for that CN domain;

4> inform the deletion of these keys to upper layers.

3> else:

4> store the current "START" value for this CN domain on the USIM.

1> else:

2> if the SIM is present, for each CN domain:

3> if a new security key set was received for this CN domain but was not used either for integrity protection or ciphering during this RRC connection:

4> set the START value for this domain to zero; and

4> store this START value for this domain in the UE

3> else:

4> if the current "START" value, according to subclause 8.5.9 for this CN domain, is greater than or equal to the value "THRESHOLD" of the variable START_THRESHOLD:

5> delete the Kc key for this CN domain;

54> delete the ciphering and integrity keys that are stored in the UE for that CN domain.

[Note to editor: Indentation has been changed]

5> set the "START" values for this CN domain to zero and store it the UE;

5> inform the deletion of the key to upper layers.

4> else:

5> store the current "START" value for this CN domain in the UE.

11.3 Information element definitions

```
<Cut until the next modified section>
-- **************************************************
--
--     USER EQUIPMENT INFORMATION ELEMENTS (10.3.3)
--
-- **************************************************

<Cut until the next modified section>

SecurityCapability ::=              SEQUENCE {
    cipheringAlgorithmCap               BIT STRING {
                                        -- For each bit value "0" means false/ not supported
                                            spare15(0),
                                            spare14(1),
                                            spare13(2),
                                            spare12(3),
                                            spare11(4),
                                            spare10(5),
                                            spare9(6),
                                            spare8(7),
                                            spare7(8),
                                            spare6(9),
                                            spare5(10),
                                            spare4(11),
                                            spare3(12),
                                            spare2(13),
                                            uea1(14),
                                            uea0(15)
                                            }   (SIZE (16)),

IntegrityProtectionAlgorithmCap     BIT STRING {
                                        -- For each bit value "0" means false/ not supported
                                            spare15(0),
                                            spare14(1),
                                            spare13(2),
                                            spare12(3),
                                            spare11(4),
                                            spare10(5),
                                            spare9(6),
                                            spare8(7),
                                            spare7(8),
                                            spare6(9),
                                            spare5(10),
                                            spare4(11),
                                            spare3(12),
                                            spare2(13),
                                            uia1(14),
                                            spare0(15)
                                            }   (SIZE (16))
}

<Cut until the next modified section>

-- **************************************************
--
--     OTHER INFORMATION ELEMENTS (10.3.8)
--
-- **************************************************

<Cut until the next modified section>

GsmSecurityCapability ::=           BIT STRING {
                                        -- For each bit value "0" means false/ not supported
                                        a5-7(0),
                                        a5-6(1),
                                        a5-5(2),
                                        a5-4(3),
                                        a5-3(4),
                                        a5-2(5),
                                        a5-1(6)
                                        }   (SIZE (7))
```

3GPP TSG-RAN-WG2 Meeting #36
Marne la Vallée, France, 19th-23th April 2003

Tdoc ⌘R2-031311

CR-Form-v7

CHANGE REQUEST

⌘ **25.331** **CR** **1927** ⌘ **rev** **-** ⌘ Current version: **3.e.0** ⌘

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

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

Title:	⌘	Security actions when SIM is present on RRC Connection Request
Source:	⌘	RAN WG2
Work item code:	⌘	TEI
Date:	⌘	20/05/2003
Category:	⌘	**F**
Release:	⌘	R99

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	Currently, only the actions for the USIM are described for the RRC Connection Request is initiated (see section 8.1.3.2). This does not mirror other sections where the security actions are described for both USIM and SIM and is not coherent with the requirements set in section 6.8.2.4 of TS 33.102.
Summary of change:	⌘	Added actions for when SIM is present **Impact Analysis:** UE impact: any UE that has not implemented this functionality for SIM is in clear breach of the requirements set in section 6.8.2.4 of TS 33.102 and it is expected that a smart UE implementation already complies to this behaviour. NW impact: there is not impact on the network given that all actions only affect the UE.
Consequences if not approved:	⌘	Actions for when SIM is present are not defined in section 8.1.3.2. This would mean that there would be an inconsistency between section 8.1.3.2 of 25.331 and the requirements described in section 6.8.2.4 of 33.102 and that a random value may be stored in non-volatile memory when the RRC connection is established. Furthermore, when checking START values against THRESHOLD, START would be compared to a random value for the duration of the connection. Failure to comply to these requirements implies a security hole due to possible re-use of COUNT_C values.

Clauses affected:	⌘	8.1.3.2

		Y	N			
Other specs	⌘		X	Other core specifications	⌘	

Affected:		
	X	Test specifications
	X	O&M Specifications
Other comments: ⌘		

How to create CRs using this form:

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

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

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

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

8.1.3.2 Initiation

The UE shall initiate the procedure when upper layers in the UE requests the establishment of a signalling connection and the UE is in idle mode (no RRC connection exists), as specified in subclause 8.1.8.

Upon initiation of the procedure, the UE shall:

1> set the variable PROTOCOL_ERROR_INDICATOR to FALSE;

1> if the USIM is present:

2~~1~~> set the value of "THRESHOLD" in the variable "START_THRESHOLD" to the 20 MSBs of the value stored in the USIM [50] for the maximum value of START for each CN Domain.

1> if the SIM is present:

2~~1~~> set the value of "THRESHOLD" in the variable "START_THRESHOLD" to ~~all ones~~ the default value in [40] for each CN Domain.

1> set the IE "Initial UE identity" in the variable INITIAL_UE_IDENTITY according to subclause 8.5.1;

1> set the contents of the RRC CONNECTION REQUEST message according to subclause 8.1.3.3;

1> set CFN in relation to SFN of current cell according to subclause 8.5.15;

1> perform the mapping of the Access Class to an Access Service Class as specified in subclause 8.5.13, and apply the given Access Service Class when accessing the RACH;

1> submit the RRC CONNECTION REQUEST message for transmission on the uplink CCCH;

1> set counter V300 to 1; and

1> start timer T300 when the MAC layer indicates success or failure to transmit the message;

1> select a Secondary CCPCH according to [4];

1> start receiving all FACH transport channels mapped on the selected Secondary CCPCH.

3GPP TSG-RAN-WG2 Meeting #36
Marne la Vallée, France, 19th-23th April 2003

Tdoc ⌘R2-031312

CR-Form-v7

CHANGE REQUEST

⌘ **25.331** **CR** **1928** ⌘ **rev** **-** ⌘ Current version: **4.9.0** ⌘

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

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

Title:	⌘	Security actions when SIM is present on RRC Connection Request
Source:	⌘	RAN WG2
Work item code:	⌘	TEI
Date:	⌘	20/05/2003
Category:	⌘	**A**
Release:	⌘	Rel-4

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

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

Reason for change:	⌘	Currently, only the actions for the USIM are described for the RRC Connection Request is initiated (see section 8.1.3.2). This does not mirror other sections where the security actions are described for both USIM and SIM and is not coherent with the requirements set in section 6.8.2.4 of TS 33.102.
Summary of change:	⌘	Added actions for when SIM is present **Impact Analysis:** UE impact: any UE that has not implemented this functionality for SIM is in clear breach of the requirements set in section 6.8.2.4 of TS 33.102 and it is expected that a smart UE implementation already complies to this behaviour. NW impact: there is not impact on the network given that all actions only affect the UE.
Consequences if not approved:	⌘	Actions for when SIM is present are not defined in section 8.1.3.2. This would mean that there would be an inconsistency between section 8.1.3.2 of 25.331 and the requirements described in section 6.8.2.4 of 33.102 and that a random value may be stored in non-volatile memory when the RRC connection is established. Furthermore, when checking START values against THRESHOLD, START would be compared to a random value for the duration of the connection. ~~Furthermore, f~~Failure to comply to these requirements implies a security hole due to possible re-use of COUNT_C values.

Clauses affected:	⌘	8.1.3.2
Other specs	⌘	Y ☐ N ☒ Other core specifications ⌘

affected:	X	Test specifications
	X	O&M Specifications
Other comments: ⌘		

How to create CRs using this form:

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

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

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

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

8.1.3.2 Initiation

The UE shall initiate the procedure when upper layers in the UE requests the establishment of a signalling connection and the UE is in idle mode (no RRC connection exists), as specified in subclause 8.1.8.

Upon initiation of the procedure, the UE shall:

1> set the variable PROTOCOL_ERROR_INDICATOR to FALSE;

1> if the USIM is present:

2~~1~~> set the value of "THRESHOLD" in the variable "START_THRESHOLD" to the 20 MSBs of the value stored in the USIM [50] for the maximum value of START for each CN Domain.

1> if the SIM is present:

2~~1~~> set the value of "THRESHOLD" in the variable "START_THRESHOLD" to ~~all ones~~ the default value in [40] for each CN Domain.

1> set the IE "Initial UE identity" in the variable INITIAL_UE_IDENTITY according to subclause 8.5.1;

1> set the contents of the RRC CONNECTION REQUEST message according to subclause 8.1.3.3;

1> set CFN in relation to SFN of current cell according to subclause 8.5.15;

1> perform the mapping of the Access Class to an Access Service Class as specified in subclause 8.5.13, and apply the given Access Service Class when accessing the RACH;

1> submit the RRC CONNECTION REQUEST message for transmission on the uplink CCCH;

1> set counter V300 to 1; and

1> start timer T300 when the MAC layer indicates success or failure to transmit the message;

1> select a Secondary CCPCH according to [4];

1> start receiving all FACH transport channels mapped on the selected Secondary CCPCH.

3GPP TSG-RAN-WG2 Meeting #36
Marne la Vallée, France, 19th-23th April 2003

Tdoc ⌘R2-031313

CR-Form-v7

CHANGE REQUEST

⌘ **25.331** **CR** **1929** ⌘ **rev** **-** ⌘ Current version: **5.4.0** ⌘

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

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

Title:	⌘	Security actions when SIM is present on RRC Connection Request
Source:	⌘	RAN WG2
Work item code:	⌘	TEI
Date:	⌘	20/05/2003
Category:	⌘	**A**
Release:	⌘	Rel-5

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Clauses affected:	⌘	8.1.3.2

		Y	N			
Other specs	⌘		X	Other core specifications	⌘	

affected:	X	Test specifications
	X	O&M Specifications
Other comments: ⌘		

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