TSG-RAN Meeting #15
Jeju-do, Korea, 5 - 8 March 2002

RP-020073

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

Source: **TSG-RAN WG2**

Agenda item: **7.2.3**

Doc-1st-	Status-	Spec	CR	Rev	Phase	Subject	Cat	Version	Versio
R2-020500	agreed	25.331	1318	1	R99	Treatment of optional elements in RB control messages	F	3.9.0	3.10.0
R2-020501	agreed	25.331	1319		Rel-4	Treatment of optional elements in RB control messages	A	4.3.0	4.4.0
R2-020344	agreed	25.331	1322		R99	Procedure Performance for TDD UL physical Channel Control	F	3.9.0	3.10.0
R2-020502	agreed	25.331	1323		Rel-4	Procedure Performance for TDD UL physical Channel Control	A	4.3.0	4.4.0
R2-020565	agreed	25.331	1332	2	R99	OTDOA Assistance Data	F	3.9.0	3.10.0
R2-020566	agreed	25.331	1333		Rel-4	OTDOA Assistance Data	A	4.3.0	4.4.0
R2-020568	agreed	25.331	1336	2	R99	Retransmission of uplink direct transfer at RLC re-establishment and inter-RAT change	F	3.9.0	3.10.0
R2-020569	agreed	25.331	1337		Rel-4	Retransmission of uplink direct transfer at RLC re-establishment and inter-RAT change	A	4.3.0	4.4.0
R2-020511	agreed	25.331	1338	1	R99	Correction to IE “UL interference” for UTRA TDD	F	3.9.0	3.10.0
R2-020512	agreed	25.331	1339		Rel-4	Correction to IE “UL interference” for UTRA TDD	A	4.3.0	4.4.0
R2-020513	agreed	25.331	1346	1	R99	Correction to UE Id for DSCH	F	3.9.0	3.10.0
R2-020570	agreed	25.331	1347		Rel-4	Correction to UE Id for DSCH	A	4.3.0	4.4.0
R2-020515	agreed	25.331	1348	3	R99	Corrections to support combined Cell/URA update and SRNS relocation	F	3.9.0	3.10.0
R2-020438	agreed	25.331	1349		Rel-4	Corrections to support combined Cell/URA update and SRNS relocation	A	4.3.0	4.4.0
R2-020516	agreed	25.331	1350	1	R99	Number of UTRAN and Inter-RAT frequencies	F	3.9.0	3.10.0
R2-020517	agreed	25.331	1351		Rel-4	Number of UTRAN and Inter-RAT frequencies	A	4.3.0	4.4.0
R2-020519	agreed	25.331	1352	1	R99	Abortion of signalling connection establishment	F	3.9.0	3.10.0
R2-020520	agreed	25.331	1353		Rel-4	Abortion of signalling connection establishment	A	4.3.0	4.4.0
R2-020523	agreed	25.331	1357	1	R99	Modification of GPS timing representation to avoid large integers	F	3.9.0	3.10.0
R2-020524	agreed	25.331	1358		Rel-4	Modification of GPS timing representation to avoid large integers	A	4.3.0	4.4.0

3GPP TSG-RAN WG2 Meeting #27
Orlando, USA, 18th - 22nd February 2002

Tdoc r2-020500

CR-Form-v5

CHANGE REQUEST

⌘ **25.331** **CR** **1318** ⌘ **rev** **r1** ⌘ Current version: **3.9.0** ⌘

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

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

Title:	⌘	Treatment of optional elements in RB control messages
Source:	⌘	TSG-RAN WG2
Work item code:	⌘	TEI
Date:	⌘	18 FEB 2002
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)

Reason for change: ⌘

1. When receiving Radio Control Reconfiguration messages certain IEs, being optional, may not be included by the UTRAN. If the presence of a IE is used to configure a certain feature, then the behaviour of the UE if this IE is absent is not clear - whether the UE is to stop using the configuration corresponding to the previously received values or continue to use the previously received values.

2. The IE "Secondary CPICH Info " is optional in the IE "Downlink DPCH Info" for each RL. If the UTRAN includes this IE in one configuration message the UE will start using the secondary CPICH. If the URTRAN then does not include it in a subsequent reconfiguration message, it is not clear if the UE is meant to continue to use the previously received configuration or not. If the UE is required to continue to use the previously received configuration then it is not possible for the UTRAN to disable Secondary CPICH operation. It is required for the UTRAN to have the ability to turn off the use of the Secondary CPICH.

3. The IE "CPCH Set ID" is OP. It is not clear what the UE is to do in case this is not included in a subsequent message.

4. The IE "Header Compression Information" is optional. If a subsequent message does not include it the UE action is not clear. Without clear actions it will not be possible to stop header compressikon in case of relocation for e.g.

Summary of change: ⌘	1. It is clarified that the UE shall not use any previously stored configuration for the IE "Polling Info". 2. It is clarified that the UE shall stop acting on the IE "secondary CPICH Info" is not included in a subsequent message. 3. It is clarified that the UE shall stop using the PCPCH assigned to it if the IE "CPCH Set ID" is not included in a subsequent message and start using the last PRACH configured on the UL. 4. It is clarfied that the UE shall not use any stored header compression information if absent in a subsequent message. **Isolated Impact Analysis** **Corrected Functionality : Radio Bearer Control** Correction to a function where the specification was: • ambiguous or not sufficiently explicit. Would not affect implementations behaving like indicated in the CR, would affect implementations supporting the corrected functionality otherwise. The corrected functionality is Radio Control Reconfiguration, Secondary CPICH usage in the UE. • If the network implements the change but not the UE, the UE might incorrectly not apply the right configuration in case of a UE implementation that decides to not use a previous configuration. In addition the UE would incorrectly continue to use the Secondary CPICH. • If the UE implements the change but not the network, the UE might incorrectly not apply the right configuration in case of a NW implementation that decides to not use a previous configuration and thereby signal it as such by not including the IEs.
Consequences if not approved: ⌘	1. The UTRAN will not be able to switch off a previously configured Polling mechanism. 2. The UTRAN will not have the ability to turn off the usage of the Secondary CPICH by the UE. 3. The UTRAN will not be able to stop CPCP usage. 4. The UTRAN will not be able to stop the application of header compression.

Clauses affected:	⌘	8.6.4.9, 8.6.4.10, 8.6.6.12, 8.6.6.20		
Other specs affected:	⌘	☐ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	25.331 v4.3.0, CR 1319
Other comments:	⌘			

How to create CRs using this form:

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

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

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP

specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

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

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

The UE shall be able to receive any of the following messages:

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

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

If the UE receives:

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

it shall:

- set the variable ORDERED_RECONFIGURATION to TRUE;
- perform the physical layer synchronisation procedure as specified in [29];
    - act upon all received information elements as specified in subclause 8.6, unless specified in the following and perform the actions below.

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

8.6.6.12 Secondary CPICH info

If the IE Secondary CPICH info is included, the UE:

- may use the channelisation code according to IE "channelisation code", with scrambling code according to IE "DL scrambling code" in the IE "Secondary CPICH info", for channel estimation of that radio link;
- may use the pilot bits on DPCCH for channel estimation.

If the IE Secondary CPICH info is not included, the UE shall:

- not use any previously stored configuration corresponding to the usage of the Secondary CPICH info.

8.6.6.19 CPCH SET Info (FDD only)

If the UE has the capability to use CPCH, the UE shall use the following general procedures:

- if an IE "CPCH SET Info" is included in a dedicated message:
  - read the "CPCH set ID" included in the IE;
  - store the IE using the "CPCH set ID" as an address tag;
  - release any active dedicated physical channels in the uplink;
  - let the PCPCHs listed in the CPCH set be the default in the uplink for CPCH.
- if an IE "CPCH SET Info" is included in a System Information message:
  - read the "CPCH set ID" included in the IE;
  - store the IE using the "CPCH set ID" as an address tag.

8.6.6.20 CPCH set ID (FDD only)

If the UE has the capability to use CPCH, the UE shall use the following general procedures. The UE shall:

- if an IE "CPCH set ID" is included in a dedicated message and not as part of IE "CPCH SET Info":
  - use the IE as an address tag to retrieve the corresponding stored "CPCH SET Info";
  - release any active dedicated physical channels in the uplink;
  - let the PCPCHs listed in the CPCH set be the default in the uplink for CPCH.
- if an IE "CPCH set ID" is included in a dedicated message and not as part of IE "CPCH SET Info", and if there is no corresponding stored "CPCH SET Info":
  - release any active dedicated physical channels in the uplink;
  - let the last assigned PRACH be the default in the uplink for RACH;
  - obtain current System Information on SCCPCH to obtain and store the "CPCH SET info" IE(s);
  - upon receipt of a "CPCH SET Info" which corresponds to the "CPCH set ID" IE:
    - let the PCPCHs listed in that CPCH set be the default in the uplink for CPCH.
- if an IE "CPCH set ID" is not included in a dedicated message and the UE prior to the receipt of this message had configured the PCPCH as the default in the uplink :
  - stop using the PCPCH;
  - let the last assigned PRACH be the default in the uplink for RACH;

8.6.4.10 PDCP Info

If IE "PDCP info" is included, the UE shall:

- if the radio bearer is connected to a CS domain radio access bearer:
  - set the variable INVALID_CONFIGURATION to TRUE.
- if the IE "PDCP PDU header" is set to the value "absent":
  - if the IE "Support for lossless SRNS relocation" is true:
    - set the variable INVALID_CONFIGURATION to TRUE.
- if the IE "PDCP PDU header" is set to the value "present":
  - if the IE "Support for lossless SRNS relocation" is false:
    - if the IE "Header compression information" is absent:
      - set the variable INVALID_CONFIGURATION to TRUE.
- if the IE "Header compression information" is absent:
  - not use Header compression after the successful completion of this procedure;
  - remove any stored configuration for the IE "Header compression information";
- configure the PDCP entity for that radio bearer accordingly;
- configure the RLC entity for that radio bearer according to the value of the IE "Support for lossless SRNS relocation".

8.6.4.9 RLC Info

If the IE "RLC Info" is included, the UE shall:

- configure the transmitting and receiving RLC entities in the UE for that radio bearer accordingly.
- if IE "Polling Info" is absent:
  - remove any previously stored configuration for the IE "Polling Info"

If the IE "Transmission RLC discard" is not included for UM RLC or TM RLC, RLC discard procedure shall not be used for that radio bearer.

3GPP TSG-RAN WG2, Meeting #27
Orlando, USA, 18th – 22nd February, 2002

Tdoc R2-020524

CR-Form-v5

CHANGE REQUEST

⌘ **25.331** **CR** **1358** ⌘ **rev** ⌘ Current version: **4.3.0** ⌘

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

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

Title:	⌘	Modification of GPS timing representation to avoid large integers
Source:	⌘	TSG-RAN WG2
Work item code:	⌘	TEI
Date:	⌘	23-02-2002
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)*

Reason for change:	⌘	The handling of numbers larger than 32 bits frequently causes problems for tools currently in use, specifically for compilers and runtime systems on the UE side. Hence, to values exceeding 32 bits should be represented by splitting the IE in two or more parts, as previously also agreed for the GPS- time of week (see R2-001164).
Summary of change:	⌘	The following changes are proposed in the original revision of this CR: • In the ASN.1, the UTRAN-GPSReferenceTime is split into two parts of which the least significant part corresponds with a 32-bit integer • In the ASN.1, the UE-GPSReferenceTime is split into two parts of which the least significant part corresponds with a 32-bit integer Changes in the revised CR (yellow highlighted) are as follows: • The value range of Ms-part of UTRAN-GPSReferenceTimeResult was wrong and this has been corrected **Impact analysis:** Impacted functionality: UE positioning Correction type: Modification of the ASN.1 specification of two IEs without affecting the signalling across the radio interface Interoperability: • The radio interface is not affected. Hence, interoperability between UE and UTRAN is not affected
Consequences if not approved:	⌘	The problems that ASN.1 tools may have with the existing ASN.1 definitions will remain

Clauses affected:	⌘	11.3		
Other specs affected:	⌘	☐ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	25.331 v3.9.0, CR 1357r1
Other comments:	⌘	A consequence of the proposed CR is that range checking is moved from the encoder/ decoder to the ASN.1 application (depending on what is agreed regarding the extension of these fields)		

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.

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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.

11.3 Information element definitions

```
<Cut until the next modified section>

InformationElements DEFINITIONS AUTOMATIC TAGS ::=
-- **************************************************
--
--     MEASUREMENT INFORMATION ELEMENTS (10.3.7)
--
-- **************************************************

<Cut until the next modified section>

UTRAN-GPSReferenceTime ::=              SEQUENCE {
    utran-GPSTimingOfCell           INTEGER(0..2322431999999),
    -- For utran-GPSTimingOfCell values above 2322431999999 are not
    -- used in this version of the specification
    utran-GPSTimingOfCell           SEQUENCE {
        ms-part                         INTEGER (0..1023),
        ls-part                         INTEGER (0..4294967295)
    },
    modeSpecificInfo                CHOICE {
        fdd                             SEQUENCE {
            referenceIdentity               PrimaryCPICH-Info
        },
        tdd                             SEQUENCE {
            referenceIdentity               CellParametersID
        }
    }               OPTIONAL,
    sfn                                 INTEGER (0..4095)
}

UTRAN-GPSReferenceTimeResult ::=                SEQUENCE {
    ue-GPSTimingOfCell          INTEGER(0..37158911999999),
    -- For ue-GPSTimingOfCell values above 37158911999999 are not
    -- used in this version of the specification
    ue-GPSTimingOfCell          SEQUENCE {
        ms-part                         INTEGER (0.. 16383),
        ls-part                         INTEGER (0..4294967295)
    },
    modeSpecificInfo                CHOICE {
        fdd                             SEQUENCE {
            referenceIdentity               PrimaryCPICH-Info
        },
        tdd                             SEQUENCE {
            referenceIdentity               CellParametersID
        }
    },
    sfn                                 INTEGER (0..4095)
}
```

3GPP TSG-RAN WG2, Meeting #27
Orlando, USA, 18th – 22nd February, 2002

Tdoc R2-020523

CR-Form-v5

CHANGE REQUEST

⌘ **25.331** **CR** **1357** ⌘ **rev** **r1** ⌘ Current version: **3.9.0** ⌘

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

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

Title:	⌘	Modification of GPS timing representation to avoid large integers
Source:	⌘	TSG-RAN WG2
Work item code:	⌘	TEI
Date:	⌘	22-02-2002
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)

Reason for change: ⌘ The handling of numbers larger than 32 bits frequently causes problems for tools currently in use, specifically for compilers and runtime systems on the UE side. Hence, to values exceeding 32 bits should be represented by splitting the IE in two or more parts, as previously also agreed for the GPS- time of week (see R2-001164).

Summary of change: ⌘ The following changes are proposed in the original revision of this CR:

- In the ASN.1, the UTRAN-GPSReferenceTime is split into two parts of which the least significant part corresponds with a 32-bit integer
- In the ASN.1, the UE-GPSReferenceTime is split into two parts of which the least significant part corresponds with a 32-bit integer

Changes in the revised CR (yellow highlighted) are as follows:

- The value range of Ms-part of UTRAN-GPSReferenceTimeResult was wrong and this has been corrected

Impact analysis:

Impacted functionality: UE positioning

Correction type: Modification of the ASN.1 specification of two IEs without affecting the signalling across the radio interface

Interoperability:

- The radio interface is not affected. Hence, interoperability between UE and UTRAN is not affected

Consequences if not approved: ⌘ The problems that ASN.1 tools may have with the existing ASN.1 definitions will remain

Clauses affected:	⌘	11.3		
Other specs affected:	⌘	☐ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	25.331 v4.3.0, CR 1358
Other comments:	⌘	A consequence of the proposed CR is that range checking is moved from the encoder/ decoder to the ASN.1 application (depending on what is agreed regarding the extension of these fields)		

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.

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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.

11.3 Information element definitions

```
<Cut until the next modified section>

InformationElements DEFINITIONS AUTOMATIC TAGS ::=
-- **************************************************
--
--     MEASUREMENT INFORMATION ELEMENTS (10.3.7)
--
-- **************************************************

<Cut until the next modified section>

UTRAN-GPSReferenceTime ::=          SEQUENCE {
    utran-GPSTimingOfCell           INTEGER(0..2322431999999),
    -- For utran-GPSTimingOfCell values above 2322431999999 are not
    -- used in this version of the specification
    utran-GPSTimingOfCell           SEQUENCE {
        ms-part                         INTEGER (0..1023),
        ls-part                         INTEGER (0..4294967295)
    },
    modeSpecificInfo                CHOICE {
        fdd                             SEQUENCE {
            referenceIdentity               PrimaryCPICH-Info
        },
        tdd                             SEQUENCE {
            referenceIdentity               CellParametersID
        }
    }           OPTIONAL,
    sfn                                 INTEGER (0..4095)
}

UTRAN-GPSReferenceTimeResult ::=    SEQUENCE {
    ue-GPSTimingOfCell          INTEGER(0..37158911999999),
    -- For ue-GPSTimingOfCell values above 37158911999999 are not
    -- used in this version of the specification
    ue-GPSTimingOfCell          SEQUENCE {
        ms-part                         INTEGER (0.. 16383),
        ls-part                         INTEGER (0..4294967295)
    },
    modeSpecificInfo                CHOICE {
        fdd                             SEQUENCE {
            referenceIdentity               PrimaryCPICH-Info
        },
        tdd                             SEQUENCE {
            referenceIdentity               CellParametersID
        }
    },
    sfn                         INTEGER (0..4095)
}
```

3GPP TSG-RAN WG2 Meeting #27
Orlando, FL, USA, Feb 18-22 2002

Tdoc R2-020520

CR-Form-v5

CHANGE REQUEST

⌘ **25.331** **CR** **1352** ⌘ **rev** **-** ⌘ Current version: **4.3.0** ⌘

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

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

Title:	⌘	Abortion of signalling connection establishment
Source:	⌘	TSG-RAN WG2
Work item code:	⌘	TEI
Date:	⌘	2002-02
Category:	⌘	**A**
Release:	⌘	REL-4

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
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R97 *(Release 1997)*
R98 *(Release 1998)*
R99 *(Release 1999)*
REL-4 *(Release 4)*
REL-5 *(Release 5)*

Reason for change: ⌘

In certain situations, such as reselection to a cell in a different location area, it is necessary to abort an ongoing establishment of a signalling connection.

When NAS requests a signalling connection it passes an initial NAS message and the RRC procedure Initial Direct Transfer is started. If no RRC connection exists (UE is in idle mode), the RRC connection establishment procedure is triggered before the Initial Direct transfer procedure can complete.

In the current RRC specification, once the Initial direct transfer procedure has been started, it is not clear what will happen if NAS requests to abort the ongoing signalling connection (during establishment). The cleanest behaviour would be to end the ongoing RRC initial direct transfer procedure.

Summary of change: ⌘

In the signalling connection release indication procedure a division has been made for the cases when the signalling connection is established and when it is during establishment. In case the signalling connection is during estalishment, the initial direction transfer procedure is aborted.

New subclauses for abortion of the initial direct transfer and RRC connection establishment have been added.

Impact analysis:

Impacted functionality: The Initial direct transfer and RRC connection establishment procedures

Correction: These procedure is aborted if a request to abort the signalling connection during establishment is received from upper layers.

Correction to a function where the specification was missing a rule. Would not affect implementations behaving like indicated in the CR, would affect implementations supporting the corrected functionality otherwise.

Consequences if not approved:	⌘	Risk of UEs initiating signalling connections in cells where they are not registered on NAS level. Risk of dropped calls during establishment phase.

Clauses affected:	⌘	8.1.3.5a (new), 8.1.8.2a (new), 8.1.14.2		
Other specs affected:	⌘	☐ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	25.331 v3.9.0, CR 1352r1
Other comments:	⌘			

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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.

8.1.3 RRC connection establishment

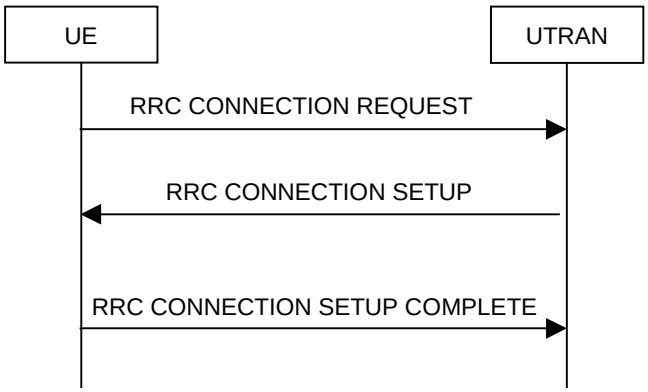

Figure 8.1.3-1: RRC Connection Establishment, network accepts RRC connection

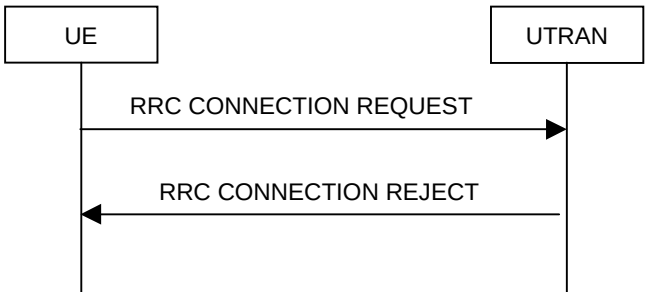

Figure 8.1.3-2: RRC Connection Establishment, network rejects RRC connection

8.1.3.1 General

The purpose of this procedure is to establish an RRC connection.

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:

- set the variable PROTOCOL_ERROR_INDICATOR to FALSE;
- if the USIM is present:
  - 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.
- set the IE "Initial UE identity" in the variable INITIAL_UE_IDENTITY according to subclause 8.5.1;
- set the contents of the RRC CONNECTION REQUEST message according to subclause 8.1.3.3;
- set CFN in relation to SFN of current cell according to subclause 8.5.15;

- 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;

- submit the RRC CONNECTION REQUEST message for transmission on the uplink CCCH;

- set counter V300 to 1; and

- start timer T300 when the MAC layer indicates success or failure to transmit the message;

- select a Secondary CCPCH according to [4];

- start receiving all FACH transport channels mapped on the selected Secondary CCPCH.

8.1.3.3 RRC CONNECTION REQUEST message contents to set

The UE shall, in the transmitted RRC CONNECTION REQUEST message:

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

- set the IE "Initial UE identity" to the value of the variable INITIAL_UE_IDENTITY;

- set the IE "Protocol error indicator" to the value of the variable PROTOCOL_ERROR_INDICATOR;

- include a measurement report in the IE "Measured results on RACH", as specified in the IE "Intra-frequency reporting quantity for RACH reporting" and the IE "Maximum number of reported cells on RACH" in System Information Block type 11; and

- include in the IE "Measured results on RACH" all requested reporting quantities for cells for which measurements are reported; and

- take care that the maximum allowed message size is not exceeded when forming the IE "Measured results on RACH".

8.1.3.4 Reception of an RRC CONNECTION REQUEST message by the UTRAN

Upon receiving an RRC CONNECTION REQUEST message, UTRAN should either:

- submit an RRC CONNECTION SETUP message to the lower layers for transmission on the downlink CCCH; or

NOTE: The RRC CONNECTION SETUP message always includes the IEs "Added or Reconfigured TrCH information list", both for uplink and downlink transport channels, even if UTRAN orders the UE to move to CELL_FACH and hence need not configure any transport channels. In these cases, UTRAN may include a configuration that adds little to the encoded message size e.g. a DCH with a single zero size transport format. At a later stage, UTRAN may either remove or reconfigure this configuration.

- submit an RRC CONNECTION REJECT message on the downlink CCCH. In the RRC CONNECTION REJECT message, the UTRAN may direct the UE to another UTRA carrier or to another system. After the RRC CONNECTION REJECT message has been sent, all context information for the UE may be deleted in UTRAN.

8.1.3.5 Cell re-selection or T300 timeout

- if the UE has not yet received an RRC CONNECTION SETUP message with the value of the IE "Initial UE identity" equal to the value of the variable INITIAL_UE_IDENTITY; and

- if cell re-selection or expiry of timer T300 occurs:

the UE shall:

- check the value of V300; and
  - if V300 is equal to or smaller than N300:
    - if cell re-selection occurred:
      - set CFN in relation to SFN of current cell according to subclause 8.5.15.
    - set the IEs in the RRC CONNECTION REQUEST message according to subclause 8.1.3.3;
    - 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;
    - submit a new RRC CONNECTION REQUEST message to lower layers for transmission on the uplink CCCH;
    - increment counter V300;
    - restart timer T300 when the MAC layer indicates success or failure to transmit the message.
  - if V300 is greater than N300:
    - enter idle mode.
    - consider the procedure to be unsuccessful;
    - Other actions the UE shall perform when entering idle mode from connected mode are specified in subclause 8.5.2;
    - the procedure ends.

8.1.3.5a Abortion of RRC connection establishment

If the UE has not yet entered UTRA RRC Connected mode and the RRC connection establishment is to be aborted as specified in subclause 8.1.8, the UE shall:

- consider the procedure to be unsuccessful;
- perform the actions when entering idle mode as specified in subclause 8.5.2;

The procedure ends.

8.1.3.6 Reception of an RRC CONNECTION SETUP message by the UE

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

If the values are different, the UE shall:

- ignore the rest of the message.

If the values are identical, the UE shall:

- stop timer T300, and act upon all received information elements as specified in subclause 8.6, unless specified otherwise in the following:
    - if the UE will be in the CELL_FACH state at the conclusion of this procedure:
        - if the IE "Frequency info" is included:
            - select a suitable UTRA cell according to [4] on that frequency;
        - select PRACH according to subclause 8.5.17;
        - select Secondary CCPCH according to subclause 8.5.19;
        - ignore the IE "UTRAN DRX cycle length coefficient" and stop using DRX.
- perform the physical layer synchronization procedure as specified in [29];
- enter a state according to subclause 8.6.3.3;
- submit an RRC CONNECTION SETUP COMPLETE message to the lower layers on the uplink DCCH after successful state transition per subclause 8.6.3.3, with the contents set as specified below:
    - set the IE "RRC transaction identifier" to:
        - the value of "RRC transaction identifier" in the entry for the RRC CONNECTION SETUP message in the table "Accepted transactions" in the variable TRANSACTIONS; and
        - clear that entry.
    - if the USIM is present:
        - set the "START" for each CN domain in the IE "START list" in the RRC CONNECTION SETUP COMPLETE message with the corresponding START value that is stored in the USIM [50]; and then
        - set the START value stored in the USIM [50] for any CN domain to the value "THRESHOLD" of the variable START_THRESHOLD.
    - if the USIM is not present:
        - set the "START" for each CN domain in the IE "START list" in the RRC CONNECTION SETUP COMPLETE message to zero;
        - set the value of "THRESHOLD" in the variable "START_THRESHOLD" to the default value [40].
    - retrieve its UTRA UE radio access capability information elements from variable UE_CAPABILITY_REQUESTED; and then
    - include this in IE "UE radio access capability" and IE "UE radio access capability extension", provided this IE is included in variable UE_CAPABILITY_REQUESTED;
    - retrieve its inter-RAT-specific UE radio access capability information elements from variable UE_CAPABILITY_REQUESTED; and then
    - include this in IE "UE system specific capability".

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

- if the UE has entered CELL_FACH state:
  - start timer T305 using its initial value if periodical update has been configured by T305 in the IE "UE Timers and constants in connected mode" set to any other value than "infinity" in system information block type 1.
- store the contents of the variable UE_CAPABILITY_REQUESTED in the variable UE_CAPABILITY_TRANSFERRED;
- initialise variables upon entering UTRA RRC connected mode as specified in subclause 13.4;
- consider the procedure to be successful;

And the procedure ends.

8.1.3.7 Physical channel failure or cell re-selection

- If the UE failed to establish, per subclause 8.5.4, the physical channel(s) indicated in the RRC CONNECTION SETUP message; or
- if the UE performs cell re-selection; or
- if the UE will be in the CELL_FACH state at the conclusion of this procedure; and
- if the received RRC CONNECTION SETUP message included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selected another cell than indicated by this IE; or
- if the contents of the variable C_RNTI is empty;
- after having received an RRC CONNECTION SETUP message with the value of the IE "Initial UE identity" equal to the value of the variable INITIAL_UE_IDENTITY; and
- before the RRC CONNECTION SETUP COMPLETE message is delivered to lower layers for transmission:

the UE shall:

- clear the entry for the RRC CONNECTION SETUP message in the table "Accepted transactions" in the variable TRANSACTIONS;
- check the value of V300, and:
  - if V300 is equal to or smaller than N300:
    - set CFN in relation to SFN of current cell according to subclause 8.5.15;
    - set the IEs in the RRC CONNECTION REQUEST message according to subclause 8.1.3.3;
    - 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;
    - submit a new RRC CONNECTION REQUEST message to the lower layers for transmission on the uplink CCCH;
    - increment counter V300; and
    - restart timer T300 when the MAC layer indicates success or failure in transmitting the message.

- if V300 is greater than N300:
  - enter idle mode;
  - perform the actions specified in subclause 8.5.2 when entering idle mode from connected mode;
  - consider the procedure to be successful;
  - the procedure ends.

8.1.3.8 Invalid RRC CONNECTION SETUP message, unsupported configuration or invalid configuration

If the UE receives an RRC CONNECTION SETUP message which contains an IE "Initial UE identity" with a value which is identical to the value of the variable INITIAL_UE_IDENTITY, but the RRC CONNECTION SETUP message contains a protocol error causing the variable PROTOCOL_ERROR_REJECT to be set to TRUE according to clause 9, the UE shall perform procedure specific error handling as follows. The UE shall:

- clear the entry for the RRC CONNECTION SETUP message in the table "Rejected transactions" in the variable TRANSACTIONS and proceed as below;
- if the UE receives an RRC CONNECTION SETUP message which contains an IE "Initial UE identity" with a value which is identical to the value of the variable INITIAL_UE_IDENTITY; and
- the RRC CONNECTION SETUP message contained a configuration the UE does not support; and/or
- the variable UNSUPPORTED_CONFIGURATION becomes set to TRUE due to the received RRC CONNECTION SETUP message; and/or
- the variable INVALID_CONFIGURATION becomes set to TRUE due to the received RRC CONNECTION SETUP message:

the UE shall:

- clear the entry for the RRC CONNECTION SETUP message in the table "Accepted transactions" in the variable TRANSACTIONS and proceed as below;
- if V300 is equal to or smaller than N300:
  - set the variable PROTOCOL_ERROR_INDICATOR to TRUE;
  - set the IEs in the RRC CONNECTION REQUEST message according to subclause 8.1.3.3;
  - 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;
  - submit a new RRC CONNECTION REQUEST message to the lower layers for transmission on the uplink CCCH;
  - increment counter V300; and
  - restart timer T300 when the MAC layer indicates success or failure in transmitting the message.
- if V300 is greater than N300:

- enter idle mode;
- perform the actions specified in subclause 8.5.2 when entering idle mode from connected mode;
- consider the procedure to be successful;
- the procedure ends.

8.1.3.9 Reception of an RRC CONNECTION REJECT message by the UE

When the UE receives an RRC CONNECTION REJECT message on the downlink CCCH, it shall compare the value of the IE "Initial UE identity" in the received RRC CONNECTION REJECT message with the value of the variable INITIAL_UE_IDENTITY:

If the values are different, the UE shall ignore the rest of the message;

If the values are identical, the UE shall stop timer T300 and:

- if the IE "wait time" <> '0'; and
- if the IE "frequency info" is present and:
  - if V300 is equal to or smaller than N300:
    - initiate cell selection on the designated UTRA carrier;
    - after having selected and camped on a cell:
      - set CFN in relation to SFN of current cell according to subclause 8.5.15;
      - set the contents of the RRC CONNECTION REQUEST message according to subclause 8.1.3.3;
      - 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;
      - transmit an RRC CONNECTION REQUEST message on the uplink CCCH;
      - reset counter V300;
      - start timer T300 when the MAC layer indicates success or failure in transmitting the message;
      - disable cell reselection to original carrier until the time stated in the IE "wait time" has elapsed;
    - if a cell selection on the designated carrier fails:
      - wait for the time stated in the IE "wait time";
      - set CFN in relation to SFN of current cell according to subclause 8.5.15;
      - set the IEs in the RRC CONNECTION REQUEST message according to subclause 8.1.3.3;
      - 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;
      - then submit a new RRC CONNECTION REQUEST message to the lower layers for transmission on the uplink CCCH of the original serving cell;

        - increment counter V300;
        - restart timer T300 when the MAC layer indicates success or failure to transmit the message;
    - if V300 is greater than N300:
        - enter idle mode;
        - perform the actions specified in subclause 8.5.2 when entering idle mode from connected mode;
        - consider the procedure to be successful;
        - the procedure ends.
- if the IE "inter-RAT info" is present and:
    - if V300 is equal to or smaller than N300:
        - perform cell selection in the designated system;
        - delay cell reselection to the original system until the time stated in the IE " wait time" has elapsed.
        - if cell selection in the designated system fails:
            - wait at least the time stated in the IE "wait time";
            - set CFN in relation to SFN of current cell according to subclause 8.5.15;
            - set the IEs in the RRC CONNECTION REQUEST message according to subclause 8.1.3.2.
            - 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;
            - then submit a new RRC CONNECTION REQUEST message to the lower layers for transmission on the uplink CCCH;
            - increment counter V300;
            - restart timer T300 when the MAC layer indicates success or failure to transmit the message;
    - if V300 is greater than N300:
        - enter idle mode;
        - perform the actions specified in subclause 8.5.2 when entering idle mode from connected mode;
        - consider the procedure to be successful;
        - the procedure ends.
- If neither the IEs "frequency info" nor "inter-RAT info" are present and:
    - if V300 is equal to or smaller than N300:
        - wait at least the time stated in the IE "wait time";

- set the IEs in the RRC CONNECTION REQUEST message according to subclause 8.1.3.2;
- 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;
- submit a new RRC CONNECTION REQUEST message to the lower layers for transmission on the uplink CCCH;
- increment counter V300;
- restart timer T300 when the MAC layer indicates success or failure to transmit the message;

- if V300 is greater than N300:
  - enter idle mode;
  - perform the actions specified in subclause 8.5.2 when entering idle mode from connected mode;
  - consider the procedure to be successful;
  - the procedure ends.

- if the IE "wait time" = '0':
  - enter idle mode;
  - perform the actions specified in subclause 8.5.2 when entering idle mode from connected mode;
  - consider the procedure to be successful;
  - the procedure ends.

8.1.3.10 Invalid RRC CONNECTION REJECT message

If the UE receives an RRC CONNECTION REJECT message which contains an IE "Initial UE identity" with a value which is identical to the value of the IE "Initial UE identity" in the most recent RRC CONNECTION REQUEST message sent by the UE; but the RRC CONNECTION REJECT message contains a protocol error causing the variable PROTOCOL_ERROR_REJECT to be set to TRUE according to clause 9, the UE shall perform procedure specific error handling as follows:

The UE shall:

- if V300 is equal to or smaller than N300:
  - set the variable PROTOCOL_ERROR_INDICATOR to TRUE;
  - set the IEs in the RRC CONNECTION REQUEST message according to subclause 8.1.3.3;
  - 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;
  - submit a new RRC CONNECTION REQUEST message to the lower layers for transmission on the uplink CCCH;
  - increment counter V300;
  - restart timer T300 when the MAC layer indicates success or failure to transmit the message.
- if V300 is greater than N300:

- enter idle mode;
- perform the actions specified in subclause 8.5.2 when entering idle mode from connected mode;
- consider the procedure to be successful;
- the procedure ends.

8.1.8 Initial Direct transfer

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

8.1.8.1 General

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

8.1.8.2 Initiation of Initial direct transfer procedure in the UE

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

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

- set the variable ESTABLISHMENT_CAUSE to the cause for establishment indicated by upper layers;
- perform an RRC connection establishment procedure, according to subclause 8.1.3;
- if the RRC connection establishment procedure was not successful:
  - indicate failure to establish the signalling connection to upper layers and end the procedure.
- when the RRC connection establishment procedure is completed successfully:
  - continue with the initial direct transfer procedure as below.

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

- perform a cell update procedure, according to subclause 8.3.1, using the cause "uplink data transmission";
- when the cell update procedure completed successfully:
  - continue with the initial direct transfer procedure as below.

The UE shall, in the INITIAL DIRECT TRANSFER message:

- set the IE "NAS message" as received from upper layers; and
- set the IE "CN domain identity" as indicated by the upper layers; and

- set the IE "Intra Domain NAS Node Selector" as follows:
    - derive the IE "Intra Domain NAS Node Selector" from TMSI/PMTSI, IMSI, or IMEI; and
    - provide the coding of the IE "Intra Domain NAS Node Selector" according to the following priorities:
        1. derive the routing parameter for IDNNS from TMSI (CS domain) or PTMSI (PS domain) whenever a valid TMSI/PTMSI is available;
        2. base the routing parameter for IDNNS on IMSI when no valid TMSI/PTMSI is available;
        3. base the routing parameter for IDNNS on IMEI only if no (U)SIM is inserted in the UE.

In CELL_FACH state, the UE shall:

- include a measurement report in the IE "Measured results on RACH", as specified in the IE "Intra-frequency reporting quantity for RACH reporting" and the IE "Maximum number of reported cells on RACH" in System Information Block type 12 (or "System Information Block Type 11" if "System Information Block Type 12" is not being broadcast);
- include in the IE "Measured results on RACH" all requested reporting quantities for cells for which measurements are reported.

The UE shall:

- transmit the INITIAL DIRECT TRANSFER message on the uplink DCCH using AM RLC on signalling radio bearer RB3;
- when the INITIAL DIRECT TRANSFER message has been submitted to lower layers for transmission:
    - confirm the establishment of a signalling connection to upper layers; and
    - add the signalling connection with the identity indicated by the IE "CN domain identity" in the variable ESTABLISHED_SIGNALLING_CONNECTIONS; and
    - the procedure ends.

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

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

8.1.8.2a Abortion of signalling connection establishment

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

- if the UE has not yet entered UTRA RRC connected mode:
    - abort the RRC connection establishment procedure as specifiied in subclause 8.1.3;

the procedure ends.

8.1.8.3 Reception of INITIAL DIRECT TRANSFER message by the UTRAN

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

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

If the IE "Measured results on RACH" is present in the message, the UTRAN should extract the contents to be used for radio resource control.

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

8.1.14.2 Initiation

The UE shall, on receiving a request to release (abort) the signalling connection for a specific CN domain from upper layers:

- if a signalling connection in the variable ESTABLISHED_SIGNALLING_CONNECTIONS for the specific CN domain identified with the IE "CN domain identity" exists:
  - initiate the signalling connection release indication procedure. [Note to Hans: indentation changed to B2]
- otherwise:
  - abort any ongoing establishment of signalling connection for that specific CN domain as specified in 8.1.3.5a.

Upon initiation of the signalling connection release indication procedure in CELL_PCH or URA_PCH state, the UE shall:

- perform a cell update procedure, according to subclause 8.3.1, using the cause "uplink data transmission";
- when the cell update procedure completed successfully:
  - continue with the signalling connection release indication procedure as below.

The UE shall:

- set the IE "CN Domain Identity" to the value indicated by the upper layers. The value of the IE indicates the CN domain whose associated signalling connection the upper layers are indicating to be released;
- remove the signalling connection with the identity indicated by upper layers from the variable ESTABLISHED_SIGNALLING_CONNECTIONS;
- transmit a SIGNALLING CONNECTION RELEASE INDICATION message on DCCH using AM RLC.

When the SIGNALLING CONNECTION RELEASE INDICATION message has been submitted to lower layers for transmission the procedure ends.

3GPP TSG-RAN WG2 Meeting #27
Orlando, FL, USA, Feb 18-22 2002

Tdoc R2-020519

CR-Form-v5

CHANGE REQUEST

⌘ **25.331** **CR** **1352** ⌘ **rev** **r1** ⌘ Current version: **3.9.0** ⌘

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

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

Title:	⌘	Abortion of signalling connection establishment
Source:	⌘	TSG-RAN WG2
Work item code:	⌘	TEI
Date:	⌘	2002-02
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)*

Reason for change: ⌘

In certain situations, such as reselection to a cell in a different location area, it is necessary to abort an ongoing establishment of a signalling connection.

When NAS requests a signalling connection it passes an initial NAS message and the RRC procedure Initial Direct Transfer is started. If no RRC connection exists (UE is in idle mode), the RRC connection establishment procedure is triggered before the Initial Direct transfer procedure can complete.

In the current RRC specification, once the Initial direct transfer procedure has been started, it is not clear what will happen if NAS requests to abort the ongoing signalling connection (during establishment). The cleanest behaviour would be to end the ongoing RRC initial direct transfer procedure.

Summary of change: ⌘

In the signalling connection release indication procedure a division has been made for the cases when the signalling connection is established and when it is during establishment. In case the signalling connection is during estalishment, the initial direction transfer procedure is aborted.

New subclauses for abortion of the initial direct transfer and RRC connection establishment have been added.

Impact analysis:

Impacted functionality: The Initial direct transfer and RRC connection establishment procedures

Correction: These procedure is aborted if a request to abort the signalling connection during establishment is received from upper layers.

Correction to a function where the specification was missing a rule. Would not affect implementations behaving like indicated in the CR, would affect implementations supporting the corrected functionality otherwise.

Consequences if not approved:	⌘	Risk of UEs initiating signalling connections in cells where they are not registered on NAS level. Risk of dropped calls during establishment phase.

Clauses affected:	⌘	8.1.3.5a (new), 8.1.8.2a (new), 8.1.14.2		
Other specs affected:	⌘	☐ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	25.331 v4.3.0, CR 1353
Other comments:	⌘			

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

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

8.1.3 RRC connection establishment

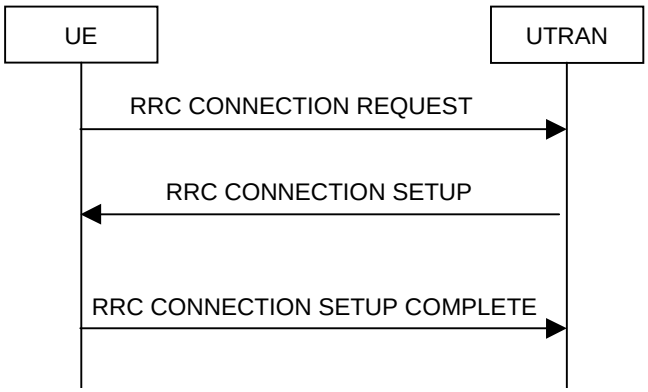

Figure 8.1.3-1: RRC Connection Establishment, network accepts RRC connection

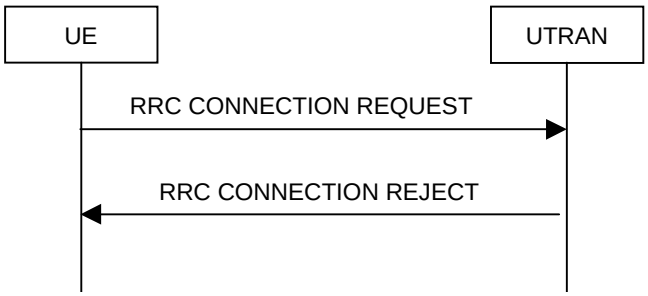

Figure 8.1.3-2: RRC Connection Establishment, network rejects RRC connection

8.1.3.1 General

The purpose of this procedure is to establish an RRC connection.

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:

- set the variable PROTOCOL_ERROR_INDICATOR to FALSE;
- if the USIM is present:
  - 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.
- set the IE "Initial UE identity" in the variable INITIAL_UE_IDENTITY according to subclause 8.5.1;
- set the contents of the RRC CONNECTION REQUEST message according to subclause 8.1.3.3;
- set CFN in relation to SFN of current cell according to subclause 8.5.15;

- 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;

- submit the RRC CONNECTION REQUEST message for transmission on the uplink CCCH;

- set counter V300 to 1; and

- start timer T300 when the MAC layer indicates success or failure to transmit the message;

- select a Secondary CCPCH according to [4];

- start receiving all FACH transport channels mapped on the selected Secondary CCPCH.

8.1.3.3 RRC CONNECTION REQUEST message contents to set

The UE shall, in the transmitted RRC CONNECTION REQUEST message:

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

- set the IE "Initial UE identity" to the value of the variable INITIAL_UE_IDENTITY;

- set the IE "Protocol error indicator" to the value of the variable PROTOCOL_ERROR_INDICATOR;

- include a measurement report in the IE "Measured results on RACH", as specified in the IE "Intra-frequency reporting quantity for RACH reporting" and the IE "Maximum number of reported cells on RACH" in System Information Block type 11; and

- include in the IE "Measured results on RACH" all requested reporting quantities for cells for which measurements are reported; and

- take care that the maximum allowed message size is not exceeded when forming the IE "Measured results on RACH".

8.1.3.4 Reception of an RRC CONNECTION REQUEST message by the UTRAN

Upon receiving an RRC CONNECTION REQUEST message, UTRAN should either:

- submit an RRC CONNECTION SETUP message to the lower layers for transmission on the downlink CCCH; or

NOTE: The RRC CONNECTION SETUP message always includes the IEs "Added or Reconfigured TrCH information list", both for uplink and downlink transport channels, even if UTRAN orders the UE to move to CELL_FACH and hence need not configure any transport channels. In these cases, UTRAN may include a configuration that adds little to the encoded message size e.g. a DCH with a single zero size transport format. At a later stage, UTRAN may either remove or reconfigure this configuration.

- submit an RRC CONNECTION REJECT message on the downlink CCCH. In the RRC CONNECTION REJECT message, the UTRAN may direct the UE to another UTRA carrier or to another system. After the RRC CONNECTION REJECT message has been sent, all context information for the UE may be deleted in UTRAN.

8.1.3.5 Cell re-selection or T300 timeout

- if the UE has not yet received an RRC CONNECTION SETUP message with the value of the IE "Initial UE identity" equal to the value of the variable INITIAL_UE_IDENTITY; and

- if cell re-selection or expiry of timer T300 occurs:

the UE shall:

- check the value of V300; and
  - if V300 is equal to or smaller than N300:
    - if cell re-selection occurred:
      - set CFN in relation to SFN of current cell according to subclause 8.5.15.
    - set the IEs in the RRC CONNECTION REQUEST message according to subclause 8.1.3.3;
    - 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;
    - submit a new RRC CONNECTION REQUEST message to lower layers for transmission on the uplink CCCH;
    - increment counter V300;
    - restart timer T300 when the MAC layer indicates success or failure to transmit the message.
  - if V300 is greater than N300:
    - enter idle mode.
    - consider the procedure to be unsuccessful;
    - Other actions the UE shall perform when entering idle mode from connected mode are specified in subclause 8.5.2;
    - the procedure ends.

8.1.3.5a Abortion of RRC connection establishment

If the UE has not yet entered UTRA RRC Connected mode and the RRC connection establishment is to be aborted as specified in subclause 8.1.8, the UE shall:

- consider the procedure to be unsuccessful;
- perform the actions when entering idle mode as specified in subclause 8.5.2;

The procedure ends.

8.1.3.6 Reception of an RRC CONNECTION SETUP message by the UE

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

If the values are different, the UE shall:

- ignore the rest of the message.

If the values are identical, the UE shall:

- stop timer T300, and act upon all received information elements as specified in subclause 8.6, unless specified otherwise in the following:
    - if the UE will be in the CELL_FACH state at the conclusion of this procedure:
        - if the IE "Frequency info" is included:
            - select a suitable UTRA cell according to [4] on that frequency;
        - select PRACH according to subclause 8.5.17;
        - select Secondary CCPCH according to subclause 8.5.19;
        - ignore the IE "UTRAN DRX cycle length coefficient" and stop using DRX.
- perform the physical layer synchronization procedure as specified in [29];
- enter a state according to subclause 8.6.3.3;
- submit an RRC CONNECTION SETUP COMPLETE message to the lower layers on the uplink DCCH after successful state transition per subclause 8.6.3.3, with the contents set as specified below:
    - set the IE "RRC transaction identifier" to:
        - the value of "RRC transaction identifier" in the entry for the RRC CONNECTION SETUP message in the table "Accepted transactions" in the variable TRANSACTIONS; and
        - clear that entry.
    - if the USIM is present:
        - set the "START" for each CN domain in the IE "START list" in the RRC CONNECTION SETUP COMPLETE message with the corresponding START value that is stored in the USIM [50]; and then
        - set the START value stored in the USIM [50] for any CN domain to the value "THRESHOLD" of the variable START_THRESHOLD.
    - if the USIM is not present:
        - set the "START" for each CN domain in the IE "START list" in the RRC CONNECTION SETUP COMPLETE message to zero;
        - set the value of "THRESHOLD" in the variable "START_THRESHOLD" to the default value [40].
    - retrieve its UTRA UE radio access capability information elements from variable UE_CAPABILITY_REQUESTED; and then
    - include this in IE "UE radio access capability" and IE "UE radio access capability extension", provided this IE is included in variable UE_CAPABILITY_REQUESTED;
    - retrieve its inter-RAT-specific UE radio access capability information elements from variable UE_CAPABILITY_REQUESTED; and then
    - include this in IE "UE system specific capability".

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

- if the UE has entered CELL_FACH state:
  - start timer T305 using its initial value if periodical update has been configured by T305 in the IE "UE Timers and constants in connected mode" set to any other value than "infinity" in system information block type 1.
- store the contents of the variable UE_CAPABILITY_REQUESTED in the variable UE_CAPABILITY_TRANSFERRED;
- initialise variables upon entering UTRA RRC connected mode as specified in subclause 13.4;
- consider the procedure to be successful;

And the procedure ends.

8.1.3.7 Physical channel failure or cell re-selection

- If the UE failed to establish, per subclause 8.5.4, the physical channel(s) indicated in the RRC CONNECTION SETUP message; or
- if the UE performs cell re-selection; or
- if the UE will be in the CELL_FACH state at the conclusion of this procedure; and
- if the received RRC CONNECTION SETUP message included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selected another cell than indicated by this IE; or
- if the contents of the variable C_RNTI is empty;
- after having received an RRC CONNECTION SETUP message with the value of the IE "Initial UE identity" equal to the value of the variable INITIAL_UE_IDENTITY; and
- before the RRC CONNECTION SETUP COMPLETE message is delivered to lower layers for transmission:

the UE shall:

- clear the entry for the RRC CONNECTION SETUP message in the table "Accepted transactions" in the variable TRANSACTIONS;
- check the value of V300, and:
  - if V300 is equal to or smaller than N300:
    - set CFN in relation to SFN of current cell according to subclause 8.5.15;
    - set the IEs in the RRC CONNECTION REQUEST message according to subclause 8.1.3.3;
    - 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;
    - submit a new RRC CONNECTION REQUEST message to the lower layers for transmission on the uplink CCCH;
    - increment counter V300; and
    - restart timer T300 when the MAC layer indicates success or failure in transmitting the message.

- if V300 is greater than N300:
    - enter idle mode;
    - perform the actions specified in subclause 8.5.2 when entering idle mode from connected mode;
    - consider the procedure to be successful;
    - the procedure ends.

8.1.3.8 Invalid RRC CONNECTION SETUP message, unsupported configuration or invalid configuration

If the UE receives an RRC CONNECTION SETUP message which contains an IE "Initial UE identity" with a value which is identical to the value of the variable INITIAL_UE_IDENTITY, but the RRC CONNECTION SETUP message contains a protocol error causing the variable PROTOCOL_ERROR_REJECT to be set to TRUE according to clause 9, the UE shall perform procedure specific error handling as follows. The UE shall:

- clear the entry for the RRC CONNECTION SETUP message in the table "Rejected transactions" in the variable TRANSACTIONS and proceed as below;
- if the UE receives an RRC CONNECTION SETUP message which contains an IE "Initial UE identity" with a value which is identical to the value of the variable INITIAL_UE_IDENTITY; and
- the RRC CONNECTION SETUP message contained a configuration the UE does not support; and/or
- the variable UNSUPPORTED_CONFIGURATION becomes set to TRUE due to the received RRC CONNECTION SETUP message; and/or
- the variable INVALID_CONFIGURATION becomes set to TRUE due to the received RRC CONNECTION SETUP message:

the UE shall:

- clear the entry for the RRC CONNECTION SETUP message in the table "Accepted transactions" in the variable TRANSACTIONS and proceed as below;
- if V300 is equal to or smaller than N300:
    - set the variable PROTOCOL_ERROR_INDICATOR to TRUE;
    - set the IEs in the RRC CONNECTION REQUEST message according to subclause 8.1.3.3;
    - 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;
    - submit a new RRC CONNECTION REQUEST message to the lower layers for transmission on the uplink CCCH;
    - increment counter V300; and
    - restart timer T300 when the MAC layer indicates success or failure in transmitting the message.
- if V300 is greater than N300:

- enter idle mode;
- perform the actions specified in subclause 8.5.2 when entering idle mode from connected mode;
- consider the procedure to be successful;
- the procedure ends.

8.1.3.9 Reception of an RRC CONNECTION REJECT message by the UE

When the UE receives an RRC CONNECTION REJECT message on the downlink CCCH, it shall compare the value of the IE "Initial UE identity" in the received RRC CONNECTION REJECT message with the value of the variable INITIAL_UE_IDENTITY:

If the values are different, the UE shall ignore the rest of the message;

If the values are identical, the UE shall stop timer T300 and:

- if the IE "wait time" <> '0'; and
- if the IE "frequency info" is present and:
  - if V300 is equal to or smaller than N300:
    - initiate cell selection on the designated UTRA carrier;
    - after having selected and camped on a cell:
      - set CFN in relation to SFN of current cell according to subclause 8.5.15;
      - set the contents of the RRC CONNECTION REQUEST message according to subclause 8.1.3.3;
      - 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;
      - transmit an RRC CONNECTION REQUEST message on the uplink CCCH;
      - reset counter V300;
      - start timer T300 when the MAC layer indicates success or failure in transmitting the message;
      - disable cell reselection to original carrier until the time stated in the IE "wait time" has elapsed;
    - if a cell selection on the designated carrier fails:
      - wait for the time stated in the IE "wait time";
      - set CFN in relation to SFN of current cell according to subclause 8.5.15;
      - set the IEs in the RRC CONNECTION REQUEST message according to subclause 8.1.3.3;
      - 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;
      - then submit a new RRC CONNECTION REQUEST message to the lower layers for transmission on the uplink CCCH of the original serving cell;

        - increment counter V300;
        - restart timer T300 when the MAC layer indicates success or failure to transmit the message;
    - if V300 is greater than N300:
        - enter idle mode;
        - perform the actions specified in subclause 8.5.2 when entering idle mode from connected mode;
        - consider the procedure to be successful;
        - the procedure ends.
- if the IE "inter-RAT info" is present and:
    - if V300 is equal to or smaller than N300:
        - perform cell selection in the designated system;
        - delay cell reselection to the original system until the time stated in the IE " wait time" has elapsed.
        - if cell selection in the designated system fails:
            - wait at least the time stated in the IE "wait time";
            - set CFN in relation to SFN of current cell according to subclause 8.5.15;
            - set the IEs in the RRC CONNECTION REQUEST message according to subclause 8.1.3.2.
            - 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;
            - then submit a new RRC CONNECTION REQUEST message to the lower layers for transmission on the uplink CCCH;
            - increment counter V300;
            - restart timer T300 when the MAC layer indicates success or failure to transmit the message;
    - if V300 is greater than N300:
        - enter idle mode;
        - perform the actions specified in subclause 8.5.2 when entering idle mode from connected mode;
        - consider the procedure to be successful;
        - the procedure ends.
- If neither the IEs "frequency info" nor "inter-RAT info" are present and:
    - if V300 is equal to or smaller than N300:
        - wait at least the time stated in the IE "wait time";

- set the IEs in the RRC CONNECTION REQUEST message according to subclause 8.1.3.2;
- 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;
- submit a new RRC CONNECTION REQUEST message to the lower layers for transmission on the uplink CCCH;
- increment counter V300;
- restart timer T300 when the MAC layer indicates success or failure to transmit the message;

- if V300 is greater than N300:
  - enter idle mode;
  - perform the actions specified in subclause 8.5.2 when entering idle mode from connected mode;
  - consider the procedure to be successful;
  - the procedure ends.

- if the IE "wait time" = '0':
  - enter idle mode;
  - perform the actions specified in subclause 8.5.2 when entering idle mode from connected mode;
  - consider the procedure to be successful;
  - the procedure ends.

8.1.3.10 Invalid RRC CONNECTION REJECT message

If the UE receives an RRC CONNECTION REJECT message which contains an IE "Initial UE identity" with a value which is identical to the value of the IE "Initial UE identity" in the most recent RRC CONNECTION REQUEST message sent by the UE; but the RRC CONNECTION REJECT message contains a protocol error causing the variable PROTOCOL_ERROR_REJECT to be set to TRUE according to clause 9, the UE shall perform procedure specific error handling as follows:

The UE shall:

- if V300 is equal to or smaller than N300:
  - set the variable PROTOCOL_ERROR_INDICATOR to TRUE;
  - set the IEs in the RRC CONNECTION REQUEST message according to subclause 8.1.3.3;
  - 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;
  - submit a new RRC CONNECTION REQUEST message to the lower layers for transmission on the uplink CCCH;
  - increment counter V300;
  - restart timer T300 when the MAC layer indicates success or failure to transmit the message.
- if V300 is greater than N300:

- enter idle mode;
- perform the actions specified in subclause 8.5.2 when entering idle mode from connected mode;
- consider the procedure to be successful;
- the procedure ends.

8.1.8 Initial Direct transfer

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

8.1.8.1 General

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

8.1.8.2 Initiation of Initial direct transfer procedure in the UE

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

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

- set the variable ESTABLISHMENT_CAUSE to the cause for establishment indicated by upper layers;
- perform an RRC connection establishment procedure, according to subclause 8.1.3;
- if the RRC connection establishment procedure was not successful:
  - indicate failure to establish the signalling connection to upper layers and end the procedure.
- when the RRC connection establishment procedure is completed successfully:
  - continue with the initial direct transfer procedure as below.

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

- perform a cell update procedure, according to subclause 8.3.1, using the cause "uplink data transmission";
- when the cell update procedure completed successfully:
  - continue with the initial direct transfer procedure as below.

The UE shall, in the INITIAL DIRECT TRANSFER message:

- set the IE "NAS message" as received from upper layers; and
- set the IE "CN domain identity" as indicated by the upper layers; and

- set the IE "Intra Domain NAS Node Selector" as follows:
    - derive the IE "Intra Domain NAS Node Selector" from TMSI/PMTSI, IMSI, or IMEI; and
    - provide the coding of the IE "Intra Domain NAS Node Selector" according to the following priorities:
        1. derive the routing parameter for IDNNS from TMSI (CS domain) or PTMSI (PS domain) whenever a valid TMSI/PTMSI is available;
        2. base the routing parameter for IDNNS on IMSI when no valid TMSI/PTMSI is available;
        3. base the routing parameter for IDNNS on IMEI only if no (U)SIM is inserted in the UE.

In CELL_FACH state, the UE shall:

- include a measurement report in the IE "Measured results on RACH", as specified in the IE "Intra-frequency reporting quantity for RACH reporting" and the IE "Maximum number of reported cells on RACH" in System Information Block type 12 (or "System Information Block Type 11" if "System Information Block Type 12" is not being broadcast);
- include in the IE "Measured results on RACH" all requested reporting quantities for cells for which measurements are reported.

The UE shall:

- transmit the INITIAL DIRECT TRANSFER message on the uplink DCCH using AM RLC on signalling radio bearer RB3;
- when the INITIAL DIRECT TRANSFER message has been submitted to lower layers for transmission:
    - confirm the establishment of a signalling connection to upper layers; and
    - add the signalling connection with the identity indicated by the IE "CN domain identity" in the variable ESTABLISHED_SIGNALLING_CONNECTIONS; and
    - the procedure ends.

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

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

8.1.8.2a Abortion of signalling connection establishment

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

- if the UE has not yet entered UTRA RRC connected mode:
    - abort the RRC connection establishment procedure as specifiied in subclause 8.1.3;

the procedure ends.

8.1.8.3 Reception of INITIAL DIRECT TRANSFER message by the UTRAN

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

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

If the IE "Measured results on RACH" is present in the message, the UTRAN should extract the contents to be used for radio resource control.

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

8.1.14.2 Initiation

The UE shall, on receiving a request to release (abort) the signalling connection for a specific CN domain from upper layers:

- if a signalling connection in the variable ESTABLISHED_SIGNALLING_CONNECTIONS for the specific CN domain identified with the IE "CN domain identity" exists:
  - initiate the signalling connection release indication procedure. [Note to Hans: indentation changed to B2]
- otherwise:
  - abort any ongoing establishment of signalling connection for that specific CN domain as specified in 8.1.3.5a.

Upon initiation of the signalling connection release indication procedure in CELL_PCH or URA_PCH state, the UE shall:

- perform a cell update procedure, according to subclause 8.3.1, using the cause "uplink data transmission";
- when the cell update procedure completed successfully:
  - continue with the signalling connection release indication procedure as below.

The UE shall:

- set the IE "CN Domain Identity" to the value indicated by the upper layers. The value of the IE indicates the CN domain whose associated signalling connection the upper layers are indicating to be released;
- remove the signalling connection with the identity indicated by upper layers from the variable ESTABLISHED_SIGNALLING_CONNECTIONS;
- transmit a SIGNALLING CONNECTION RELEASE INDICATION message on DCCH using AM RLC.

When the SIGNALLING CONNECTION RELEASE INDICATION message has been submitted to lower layers for transmission the procedure ends.

3GPP TSG-RAN2 Meeting #27
Orlando, U.S.A, 18-22 February, 2002

Tdoc R2-020517

CR-Form-v5

CHANGE REQUEST

⌘ **25.331** **CR** **1351** ⌘ **rev** **-** ⌘ Current version: **4.3.0** ⌘

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

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

Title:	⌘	Number of UTRAN and inter-RAT frequencies
Source:	⌘	TSG-RAN WG2
Work item code:	⌘	TEI
Date:	⌘	22 Feb. 2002
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)*

Reason for change:	⌘	The SYSTEM INFORMATION (SIB 11 and SIB 12) and MEASUREMENT CONTROL messages allow to signal to the UE a number of UTRAN or inter-RAT frequencies that is larger than the numbers considered in the current performance specifications.
Summary of change:	⌘	If the variable CELL_INFO_LIST includes a number (M) of UTRAN/inter-RAT frequencies that is larger than the number (N) of UTRAN/inter-RAT frequencies that the UE/MS is required to monitor according to the performance specifications (TS 25.133), the UE/MS shall be required to meet the performance requirements only on the first N (out of M) frequencies, where the frequencies are ordered according to their positions in the variable CELL_INFO_LIST. ~~Note: in the current release of the specification UTRAN should not assign to the UE a number of frequencies that is larger than the number considered in the current release of the UE performance requirements.~~ **Isolated Impact Change Analysis.** This change affects the inter-frequency and inter-RAT procedures. It would not affect implementations behaving like indicated in the CR, it would affect implementations supporting the corrected functionality otherwise. In particular: • if the UE does not implement this CR and the UE is assigned a large number of frequencies to monitor, the UE may be subject to degraded or unexpected performance, but interoprabilty should be maintained.
Consequences if not approved:	⌘	Degraded or unexpected performance in case a large number of frequencies is signalled to the UE. Future changes to the UE performance requirements would require the definition of new System Information Blocks in order to maintain backward compatibility.

Clauses affected:	⌘	8.6.7.14, 8.6.7.15

Other specs affected:	⌘	☐ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	25.331 v3.9.0, CR 1350r1
Other comments:	⌘			

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

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

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

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

[…]

8.6.7.3 Intra-frequency/Inter-frequency/Inter-RAT cell info list

If the IE "Intra-frequency cell info list" is received in System Information Block Type 11, the UE shall update the variable CELL_INFO_LIST accordingly and in the following order. The UE shall:

- if the IE "Removed Intra-frequency cells" is received:
  - ignore the IE.
- if the IE "Remove all intra-frequency cells" is received:
  - ignore the IE.
- if the IE "New Intra-frequency cells" is received, for each cell, and in the same order as the cells appear in the IE:
  - update the variable CELL_INFO_LIST as follows:
    - if the IE "Intra-frequency cell id" is received:
      - store received cell information at this position in the Intra-frequency cell info list in the variable CELL_INFO_LIST, possibly overwriting any existing information in this position; and
      - mark the position "occupied".
    - if the IE "Intra-frequency cell id" is not received:
      - store the received cell information at the first vacant position in ascending order in the Intra-frequency cell info list in the variable CELL_INFO_LIST; and
      - mark the position as "occupied".
- if the IE "Cells for measurement" is received:
  - ignore the IE.

If the IE "Intra-frequency cell info list" is received in System Information Block Type 12, the UE shall update the variable CELL_INFO_LIST accordingly and in the following order. The UE shall:

- if the IE "Removed Intra-frequency cells" is received:
  - at the position indicated by the IE "Intra-frequency cell id" clear the cell information stored in the variable CELL_INFO_LIST; and
  - mark the position "vacant".
- if the IE "Remove all intra-frequency cells" is received:
  - for each position referring to an intra frequency cell in the variable CELL_INFO_LIST:
    - mark the position "vacant".
- if the IE "New Intra-frequency cells" is received, for each cell, and in the same order as the cells appear in the IE:
  - update the variable CELL_INFO_LIST as follows:
    - if the IE "Intra-frequency cell id" is received:
      - store received cell information at this position in the Intra-frequency cell info list in the variable CELL_INFO_LIST, possibly overwriting any existing information in this position; and
      - mark the position "occupied".
    - if the IE "Intra-frequency cell id" is not received:

        - store the received cell information at the first vacant position in ascending order in the Intra-frequency cell info list in the variable CELL_INFO_LIST; and

        - mark the position as "occupied".

- if the IE "Cells for measurement" is received:

    - ignore the IE.

If the IE "Intra-frequency cell info list" is received in a MEASUREMENT CONTROL message, the UE shall update the variable CELL_INFO_LIST accordingly and in the following order. The UE shall:

- if the IE "Removed Intra-frequency cells" is received, at the position indicated by the IE "Intra-frequency cell id":

    - clear the cell information stored in the variable CELL_INFO_LIST; and

    - mark the position "vacant".

- if the IE "Remove all intra-frequency cells" is received:

    - for each position referring to an intra frequency cell in the variable CELL_INFO_LIST:

        - mark the position "vacant".

- if the IE "New Intra-frequency cells" is received, for each cell, and in the same order as the cells appear in the IE:

    - update the variable CELL_INFO_LIST as follows:

        - if the IE "Intra-frequency cell id" is received:

            - store received cell information at this position in the Intra-frequency cell info list in the variable CELL_INFO_LIST, possibly overwriting any existing information in this position; and

            - mark the position "occupied".

        - if the IE "Intra-frequency cell id" is not received:

            - store the received cell information at the first vacant position in ascending order in the Intra-frequency cell info list in the variable CELL_INFO_LIST; and

            - mark the position as "occupied".

- if the IE "Cells for measurement" is received, in the measurement configured by this message only:

    - consider Intra-frequency cells whose cell information is stored at the position indicated by the IE "Intra-frequency cell id" in the variable CELL_INFO_LIST.

- if the IE "Cells for measurement" is not received, in the measurement configured by this message:

    - consider all Intra-frequency cells whose cell information is stored in CELL_INFO_LIST.

If the IE "Inter-frequency cell info list" is received in System Information Block Type 11 update the variable CELL_INFO_LIST accordingly and in the following order. The UE shall:

- if the IE "Removed Inter-frequency cells" is received:

    - ignore the IE.

- if the IE "Remove all inter-frequency cells" is received:

    - ignore the IE.

- if the IE "New Inter-frequency cells" is received, for each cell, and in the same order as the cells appear in the IE:

    - update the variable CELL_INFO_LIST as follows:

        - if the IE "Inter-frequency cell id" is received:

            - store received cell information at this position in the Inter-frequency cell info list in the variable CELL_INFO_LIST, possibly overwriting any existing information in this position; and

            - mark the position "occupied".

        - if the IE "Inter-frequency cell id" is not received:

            - store the received cell information at the first vacant position in ascending order in the Inter-frequency cell info list in the variable CELL_INFO_LIST; and

            - mark the position as "occupied".

    - if the IE "Cells for measurement" is received:

        - ignore the IE.

If the IE "Inter-frequency cell info list" is received in System Information Block Type 12, the UE shall update the variable CELL_INFO_LIST accordingly and in the following order. The UE shall:

- if the IE "Removed Inter-frequency cells" is received, at the position indicated by the IE "Inter-frequency cell id":

    - clear the cell information stored in the variable CELL_INFO_LIST; and

    - mark the position "vacant".

- if the IE "Remove all inter-frequency cells" is received:

    - for each position referring to an inter-frequency cell in the variable CELL_INFO_LIST:

        - clear the cell information stored in the variable CELL_INFO_LIST; and

        - mark the position "vacant".

- if the IE "New Inter-frequency cells" is received, for each cell, and in the same order as the cells appear in the IE:

    - update the variable CELL_INFO_LIST as follows:

        - if the IE "Inter-frequency cell id" is received:

            - store received cell information at this position in the Inter-frequency cell info list in the variable CELL_INFO_LIST, possibly overwriting any existing information in this position; and

            - mark the position "occupied".

        - if the IE "Inter-frequency cell id" is not received:

            - store the received cell information at the first vacant position in ascending order in the Inter-frequency cell info list in the variable CELL_INFO_LIST; and

            - mark the position as "occupied".

- if the IE "Cells for measurement" is received:

    - ignore the IE.

If the IE "Inter-frequency cell info list" is received in a MEASUREMENT CONTROL message, the UE shall update the variable CELL_INFO_LIST accordingly and in the following order:

- if the IE "Removed Inter-frequency cells" is received, at the position indicated by the IE "Inter-frequency cell id":

    - clear the cell information stored in the variable CELL_INFO_LIST; and

    - mark the position "vacant".

- if the IE "Remove all inter-frequency cells" is received:
  - for each position referring to an inter-frequency cell in the variable CELL_INFO_LIST:
    - clear the cell information stored in the variable CELL_INFO_LIST; and
    - mark the position "vacant".
- if the IE "New Inter-frequency cells" is received, for each cell, and in the same order as the cells appear in the IE:
  - update the variable CELL_INFO_LIST as follows:
    - if the IE "Inter-frequency cell id" is received:
      - store received cell information at this position in the Inter-frequency cell info list in the variable CELL_INFO_LIST, possibly overwriting any existing information in this position; and
      - mark the position "occupied".
    - if the IE "Inter-frequency cell id" is not received:
      - store the received cell information at the first vacant position in ascending order in the Inter-frequency cell info list in the variable CELL_INFO_LIST; and
      - mark the position as "occupied".
- if the IE "Cells for measurement" is received, in the measurement configured by this message only:
  - consider Inter-frequency cells whose cell information is stored at the position indicated by the IE "Inter-frequency cell id" in the variable CELL_INFO_LIST.
- if the IE "Cells for measurement" is not received, in the measurement configured by this message:
  - consider all Inter-frequency cells whose cell information is stored in CELL_INFO_LIST.

If the IE "Inter-RAT cell info list" is received in System Information Block Type 11, the UE shall update the variable CELL_INFO_LIST accordingly and in the following order. The UE shall:

- if the IE "Removed Inter-RAT cells" is received:
  - ignore the IE.
- if the IE "Remove all inter-RAT cells" is received:
  - ignore the IE.
- if the IE "New Inter-RAT cells" is received, for each cell, and in the same order as the cells appear in the IE:
  - if the IE "Radio Access Technology" is set to "None":
    - ignore the cell.
  - otherwise:
    - update the variable CELL_INFO_LIST as follows:
      - if the IE "Inter-RAT cell id" is received:
        - store received cell information at this position in the Inter-RAT cell info list in the variable CELL_INFO_LIST, possibly overwriting any existing information in this position; and
        - mark the position "occupied".
      - if the IE "Inter-RAT cell id" is not received:
        - store the received cell information at the first vacant position in ascending order in the Inter-RAT cell info list in the variable CELL_INFO_LIST; and

- mark the position as "occupied".

- if the IE "Cells for measurement" is received:
  - ignore the IE.

If the IE "Inter-RAT cell info list" is received in System Information Block Type 12, the UE shall update the variable CELL_INFO_LIST accordingly and in the following order. The UE shall:

- if the IE "Removed Inter-RAT cells" is received, at the position indicated by the IE "Inter-RAT cell id":
  - clear the cell information stored in the variable CELL_INFO_LIST; and
  - mark the position "vacant".
- if the IE "Remove all inter-RAT cells" is received:
  - for each position referring to an inter-RAT cell in the variable CELL_INFO_LIST:
    - clear the cell information stored in the variable CELL_INFO_LIST; and
    - mark the position "vacant".
- if the IE "New Inter-RAT cells" is received, for each cell, and in the same order as the cells appear in the IE:
  - if the IE "Radio Access Technology" is set to "None":
    - ignore the cell.
  - otherwise:
    - update the variable CELL_INFO_LIST as follows:
      - if the IE "Inter-RAT cell id" is received:
        - store received cell information at this position in the Inter-RAT cell info list in the variable CELL_INFO_LIST, possibly overwriting any existing information in this position; and
        - mark the position "occupied".
      - if the IE "Inter-RAT cell id" is not received:
        - store the received cell information at the first vacant position in ascending order in the Inter-RAT cell info list in the variable CELL_INFO_LIST; and
        - mark the position as "occupied".
- if the IE "Cells for measurement" is received:
  - ignore the IE.

If the IE "Inter-RAT cell info list" is received in a MEASUREMENT CONTROL message, the UE shall update the variable CELL_INFO_LIST accordingly and in the following order. The UE shall:

- if the IE "Removed Inter-RAT cells" is received, at the position indicated by the IE "Inter-RAT cell id":
  - clear the cell information stored in the variable CELL_INFO_LIST; and
  - mark the position "vacant".
- if the IE "Remove all inter-RAT cells" is received:
  - for each position referring to an inter-RAT cell in the variable CELL_INFO_LIST:
    - clear the cell information stored in the variable CELL_INFO_LIST; and
    - mark the position "vacant".
- if the IE "New Inter-RAT cells" is received, for each cell, and in the same order as the cells appear in the IE:

- if the IE "Radio Access Technology" is set to "None":
  - ignore the cell.
- otherwise:
  - update the variable CELL_INFO_LIST as follows:
    - if the IE "Inter-RAT cell id" is received:
      - store received cell information at this position in the Inter-RAT cell info list in the variable CELL_INFO_LIST, possibly overwriting any existing information in this position; and
      - mark the position "occupied".
    - if the IE "Inter-RAT cell id" is not received:
      - store the received cell information at the first vacant position in ascending order in the Inter-RAT cell info list in the variable CELL_INFO_LIST; and
      - mark the position as "occupied".
- if the IE "Cells for measurement" is received, in the measurement configured by this message only:
  - consider Inter-RAT cells whose cell information is stored at the position indicated by the IE "Inter-RAT cell id" in the variable CELL_INFO_LIST.
- if the IE "Cells for measurement" is not received, in the measurement configured by this message:
  - consider all Inter-RAT cells whose cell information is stored in CELL_INFO_LIST.
- if the IE "Cell selection and re-selection info for SIB11/12" is present:
  - ignore the IE.

[…]

8.6.7.14 Inter-frequency measurement

If the Inter-frequency cell info list, included in the variable CELL_INFO_LIST, includes a number (M) of frequencies that is larger than the number (N) considered in a UE performance requirement defined in [19] and [20]:

- the UE shall meet this performance requirement on the first relevant (N) frequencies, according to the order defined by the position of the frequencies in the Inter-frequency cell info list, included in the variable CELL_INFO_LIST
- the UE may ignore the remaining (M-N) frequencies.

If IE "Inter-frequency measurement" is received by the UE in a MEASUREMENT CONTROL message, where IE "measurement command" has the value "setup", but IE "Inter-frequency measurement quantity", IE "Inter-frequency reporting quantity" or "CHOICE Report criteria" is not received, the UE shall:

- clear all stored measurement control information related associated to this measurement identity in variable MEASUREMENT_IDENTITY;
- set the variable CONFIGURATION_INCOMPLETE to TRUE;
- in the case of an inter-frequency measurement for FDD:
  - if IE "Inter-frequency measurement" is received by the UE in a MEASUREMENT CONTROL message, where IE "measurement command" has the value "setup", if an inter-frequency event is configured that is different from event 2d or 2f, and if the IE "Inter-frequency SET UPDATE" is not received in that same message:
    - set the variable CONFIGURATION_INCOMPLETE to TRUE.
  - if the IE "Inter-frequency SET UPDATE" is received:

- if the value of the IE "UE autonomous update mode" set to "Off" or "On":
  - if more than one frequency is included in the list of cells pointed at in the IE "cells for measurement" if also included in the same IE "Inter-frequency measurement", or otherwise included in the "Inter-frequency cell info" part of the variable CELL_INFO_LIST:
    - set the variable INVALID_CONFIGURATION to TRUE.

If the variable CONFIGURATION_INCOMPLETE is set to TRUE, the UE shall:

- act as described in subclause 8.4.1.4a.

8.6.7.15 Inter-RAT measurement

If the Inter-RAT cell info list, included in the variable CELL_INFO_LIST, includes a number (M) of frequencies that is larger than the number (N) considered in a UE performance requirement defined in [19] and [20]:

- the UE shall meet this performance requirement on the first relevant (N) frequencies, according to the order defined by the position of the frequencies in the Inter-RAT cell info list, included in the variable CELL_INFO_LIST
- the UE may ignore the remaining (M-N) frequencies.

If IE "Inter-RAT measurement" is received by the UE in a MEASUREMENT CONTROL message, where IE "measurement command" has the value "setup", but IE "Inter-RAT measurement quantity", IE "Inter-RAT reporting quantity" or "CHOICE Report criteria" is not received, the UE shall:

- clear all stored measurement control information related associated to this measurement identity in variable MEASUREMENT_IDENTITY;
- set the variable CONFIGURATION_INCOMPLETE to TRUE.

[…]

3GPP TSG-RAN2 Meeting #27
Orlando, U.S.A, 18-22 February, 2002

Tdoc R2-020516

CR-Form-v5

CHANGE REQUEST

⌘ **25.331** **CR** **1350** ⌘ **rev** **r1** ⌘ Current version: **3.9.0** ⌘

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

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

Title:	⌘	Number of UTRAN and inter-RAT frequencies
Source:	⌘	TSG-RAN WG2
Work item code:	⌘	TEI
Date:	⌘	22 Feb. 2002
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)*

Reason for change: ⌘ The SYSTEM INFORMATION (SIB 11 and SIB 12) and MEASUREMENT CONTROL messages allow to signal to the UE a number of UTRAN or inter-RAT frequencies that is larger than the numbers considered in the current performance specifications.

Summary of change: ⌘ If the variable CELL_INFO_LIST includes a number (M) of UTRAN/inter-RAT frequencies that is larger than the number (N) of UTRAN/inter-RAT frequencies that the UE/MS is required to monitor according to the performance specifications (TS 25.133), the UE/MS shall be required to meet the performance requirements only on the first N (out of M) frequencies, where the frequencies are ordered according to their positions in the variable CELL_INFO_LIST.

~~Note: in the current release of the specification UTRAN should not assign to the UE a number of frequencies that is larger than the number considered in the current release of the UE performance requirements.~~

Isolated Impact Change Analysis.

This change affects the inter-frequency and inter-RAT procedures.
It would not affect implementations behaving like indicated in the CR, it would affect implementations supporting the corrected functionality otherwise. In particular:

- if the UE does not implement this CR and the UE is assigned a large number of frequencies to monitor, the UE may be subject to degraded or unexpected performance, but interoprabilty should be maintained.

Consequences if not approved: ⌘ Degraded or unexpected performance in case a large number of frequencies is signalled to the UE.
Future changes to the UE performance requirements would require the definition of new System Information Blocks in order to maintain backward compatibility.

Clauses affected: ⌘ 8.6.7.14, 8.6.7.15

Other specs affected:	⌘	☐ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	25.331 v4.3.0, CR 1351
Other comments:	⌘			

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

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

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

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

[…]

8.6.7.3 Intra-frequency/Inter-frequency/Inter-RAT cell info list

If the IE "Intra-frequency cell info list" is received in System Information Block Type 11, the UE shall update the variable CELL_INFO_LIST accordingly and in the following order. The UE shall:

- if the IE "Removed Intra-frequency cells" is received:
  - ignore the IE.
- if the IE "Remove all intra-frequency cells" is received:
  - ignore the IE.
- if the IE "New Intra-frequency cells" is received, for each cell, and in the same order as the cells appear in the IE:
  - update the variable CELL_INFO_LIST as follows:
    - if the IE "Intra-frequency cell id" is received:
      - store received cell information at this position in the Intra-frequency cell info list in the variable CELL_INFO_LIST, possibly overwriting any existing information in this position; and
      - mark the position "occupied".
    - if the IE "Intra-frequency cell id" is not received:
      - store the received cell information at the first vacant position in ascending order in the Intra-frequency cell info list in the variable CELL_INFO_LIST; and
      - mark the position as "occupied".
- if the IE "Cells for measurement" is received:
  - ignore the IE.

If the IE "Intra-frequency cell info list" is received in System Information Block Type 12, the UE shall update the variable CELL_INFO_LIST accordingly and in the following order. The UE shall:

- if the IE "Removed Intra-frequency cells" is received:
  - at the position indicated by the IE "Intra-frequency cell id" clear the cell information stored in the variable CELL_INFO_LIST; and
  - mark the position "vacant".
- if the IE "Remove all intra-frequency cells" is received:
  - for each position referring to an intra frequency cell in the variable CELL_INFO_LIST:
    - mark the position "vacant".
- if the IE "New Intra-frequency cells" is received, for each cell, and in the same order as the cells appear in the IE:
  - update the variable CELL_INFO_LIST as follows:
    - if the IE "Intra-frequency cell id" is received:
      - store received cell information at this position in the Intra-frequency cell info list in the variable CELL_INFO_LIST, possibly overwriting any existing information in this position; and
      - mark the position "occupied".
    - if the IE "Intra-frequency cell id" is not received:

        - store the received cell information at the first vacant position in ascending order in the Intra-frequency cell info list in the variable CELL_INFO_LIST; and

        - mark the position as "occupied".

- if the IE "Cells for measurement" is received:

    - ignore the IE.

If the IE "Intra-frequency cell info list" is received in a MEASUREMENT CONTROL message, the UE shall update the variable CELL_INFO_LIST accordingly and in the following order. The UE shall:

- if the IE "Removed Intra-frequency cells" is received, at the position indicated by the IE "Intra-frequency cell id":

    - clear the cell information stored in the variable CELL_INFO_LIST; and

    - mark the position "vacant".

- if the IE "Remove all intra-frequency cells" is received:

    - for each position referring to an intra frequency cell in the variable CELL_INFO_LIST:

        - mark the position "vacant".

- if the IE "New Intra-frequency cells" is received, for each cell, and in the same order as the cells appear in the IE:

    - update the variable CELL_INFO_LIST as follows:

        - if the IE "Intra-frequency cell id" is received:

            - store received cell information at this position in the Intra-frequency cell info list in the variable CELL_INFO_LIST, possibly overwriting any existing information in this position; and

            - mark the position "occupied".

        - if the IE "Intra-frequency cell id" is not received:

            - store the received cell information at the first vacant position in ascending order in the Intra-frequency cell info list in the variable CELL_INFO_LIST; and

            - mark the position as "occupied".

- if the IE "Cells for measurement" is received, in the measurement configured by this message only:

    - consider Intra-frequency cells whose cell information is stored at the position indicated by the IE "Intra-frequency cell id" in the variable CELL_INFO_LIST.

- if the IE "Cells for measurement" is not received, in the measurement configured by this message:

    - consider all Intra-frequency cells whose cell information is stored in CELL_INFO_LIST.

If the IE "Inter-frequency cell info list" is received in System Information Block Type 11 update the variable CELL_INFO_LIST accordingly and in the following order. The UE shall:

- if the IE "Removed Inter-frequency cells" is received:

    - ignore the IE.

- if the IE "Remove all inter-frequency cells" is received:

    - ignore the IE.

- if the IE "New Inter-frequency cells" is received, for each cell, and in the same order as the cells appear in the IE:

    - update the variable CELL_INFO_LIST as follows:

        - if the IE "Inter-frequency cell id" is received:

            - store received cell information at this position in the Inter-frequency cell info list in the variable CELL_INFO_LIST, possibly overwriting any existing information in this position; and

            - mark the position "occupied".

        - if the IE "Inter-frequency cell id" is not received:

            - store the received cell information at the first vacant position in ascending order in the Inter-frequency cell info list in the variable CELL_INFO_LIST; and

            - mark the position as "occupied".

    - if the IE "Cells for measurement" is received:

        - ignore the IE.

If the IE "Inter-frequency cell info list" is received in System Information Block Type 12, the UE shall update the variable CELL_INFO_LIST accordingly and in the following order. The UE shall:

- if the IE "Removed Inter-frequency cells" is received, at the position indicated by the IE "Inter-frequency cell id":

    - clear the cell information stored in the variable CELL_INFO_LIST; and

    - mark the position "vacant".

- if the IE "Remove all inter-frequency cells" is received:

    - for each position referring to an inter-frequency cell in the variable CELL_INFO_LIST:

        - clear the cell information stored in the variable CELL_INFO_LIST; and

        - mark the position "vacant".

- if the IE "New Inter-frequency cells" is received, for each cell, and in the same order as the cells appear in the IE:

    - update the variable CELL_INFO_LIST as follows:

        - if the IE "Inter-frequency cell id" is received:

            - store received cell information at this position in the Inter-frequency cell info list in the variable CELL_INFO_LIST, possibly overwriting any existing information in this position; and

            - mark the position "occupied".

        - if the IE "Inter-frequency cell id" is not received:

            - store the received cell information at the first vacant position in ascending order in the Inter-frequency cell info list in the variable CELL_INFO_LIST; and

            - mark the position as "occupied".

- if the IE "Cells for measurement" is received:

    - ignore the IE.

If the IE "Inter-frequency cell info list" is received in a MEASUREMENT CONTROL message, the UE shall update the variable CELL_INFO_LIST accordingly and in the following order:

- if the IE "Removed Inter-frequency cells" is received, at the position indicated by the IE "Inter-frequency cell id":

    - clear the cell information stored in the variable CELL_INFO_LIST; and

    - mark the position "vacant".

- if the IE "Remove all inter-frequency cells" is received:
  - for each position referring to an inter-frequency cell in the variable CELL_INFO_LIST:
    - clear the cell information stored in the variable CELL_INFO_LIST; and
    - mark the position "vacant".
- if the IE "New Inter-frequency cells" is received, for each cell, and in the same order as the cells appear in the IE:
  - update the variable CELL_INFO_LIST as follows:
    - if the IE "Inter-frequency cell id" is received:
      - store received cell information at this position in the Inter-frequency cell info list in the variable CELL_INFO_LIST, possibly overwriting any existing information in this position; and
      - mark the position "occupied".
    - if the IE "Inter-frequency cell id" is not received:
      - store the received cell information at the first vacant position in ascending order in the Inter-frequency cell info list in the variable CELL_INFO_LIST; and
      - mark the position as "occupied".
- if the IE "Cells for measurement" is received, in the measurement configured by this message only:
  - consider Inter-frequency cells whose cell information is stored at the position indicated by the IE "Inter-frequency cell id" in the variable CELL_INFO_LIST.
- if the IE "Cells for measurement" is not received, in the measurement configured by this message:
  - consider all Inter-frequency cells whose cell information is stored in CELL_INFO_LIST.

If the IE "Inter-RAT cell info list" is received in System Information Block Type 11, the UE shall update the variable CELL_INFO_LIST accordingly and in the following order. The UE shall:

- if the IE "Removed Inter-RAT cells" is received:
  - ignore the IE.
- if the IE "Remove all inter-RAT cells" is received:
  - ignore the IE.
- if the IE "New Inter-RAT cells" is received, for each cell, and in the same order as the cells appear in the IE:
  - if the IE "Radio Access Technology" is set to "None":
    - ignore the cell.
  - otherwise:
    - update the variable CELL_INFO_LIST as follows:
      - if the IE "Inter-RAT cell id" is received:
        - store received cell information at this position in the Inter-RAT cell info list in the variable CELL_INFO_LIST, possibly overwriting any existing information in this position; and
        - mark the position "occupied".
      - if the IE "Inter-RAT cell id" is not received:
        - store the received cell information at the first vacant position in ascending order in the Inter-RAT cell info list in the variable CELL_INFO_LIST; and

- mark the position as "occupied".

- if the IE "Cells for measurement" is received:
  - ignore the IE.

If the IE "Inter-RAT cell info list" is received in System Information Block Type 12, the UE shall update the variable CELL_INFO_LIST accordingly and in the following order. The UE shall:

- if the IE "Removed Inter-RAT cells" is received, at the position indicated by the IE "Inter-RAT cell id":
  - clear the cell information stored in the variable CELL_INFO_LIST; and
  - mark the position "vacant".
- if the IE "Remove all inter-RAT cells" is received:
  - for each position referring to an inter-RAT cell in the variable CELL_INFO_LIST:
    - clear the cell information stored in the variable CELL_INFO_LIST; and
    - mark the position "vacant".
- if the IE "New Inter-RAT cells" is received, for each cell, and in the same order as the cells appear in the IE:
  - if the IE "Radio Access Technology" is set to "None":
    - ignore the cell.
  - otherwise:
    - update the variable CELL_INFO_LIST as follows:
      - if the IE "Inter-RAT cell id" is received:
        - store received cell information at this position in the Inter-RAT cell info list in the variable CELL_INFO_LIST, possibly overwriting any existing information in this position; and
        - mark the position "occupied".
      - if the IE "Inter-RAT cell id" is not received:
        - store the received cell information at the first vacant position in ascending order in the Inter-RAT cell info list in the variable CELL_INFO_LIST; and
        - mark the position as "occupied".
- if the IE "Cells for measurement" is received:
  - ignore the IE.

If the IE "Inter-RAT cell info list" is received in a MEASUREMENT CONTROL message, the UE shall update the variable CELL_INFO_LIST accordingly and in the following order. The UE shall:

- if the IE "Removed Inter-RAT cells" is received, at the position indicated by the IE "Inter-RAT cell id":
  - clear the cell information stored in the variable CELL_INFO_LIST; and
  - mark the position "vacant".
- if the IE "Remove all inter-RAT cells" is received:
  - for each position referring to an inter-RAT cell in the variable CELL_INFO_LIST:
    - clear the cell information stored in the variable CELL_INFO_LIST; and
    - mark the position "vacant".
- if the IE "New Inter-RAT cells" is received, for each cell, and in the same order as the cells appear in the IE:

- if the IE "Radio Access Technology" is set to "None":
  - ignore the cell.
- otherwise:
  - update the variable CELL_INFO_LIST as follows:
    - if the IE "Inter-RAT cell id" is received:
      - store received cell information at this position in the Inter-RAT cell info list in the variable CELL_INFO_LIST, possibly overwriting any existing information in this position; and
      - mark the position "occupied".
    - if the IE "Inter-RAT cell id" is not received:
      - store the received cell information at the first vacant position in ascending order in the Inter-RAT cell info list in the variable CELL_INFO_LIST; and
      - mark the position as "occupied".
- if the IE "Cells for measurement" is received, in the measurement configured by this message only:
  - consider Inter-RAT cells whose cell information is stored at the position indicated by the IE "Inter-RAT cell id" in the variable CELL_INFO_LIST.
- if the IE "Cells for measurement" is not received, in the measurement configured by this message:
  - consider all Inter-RAT cells whose cell information is stored in CELL_INFO_LIST.
- if the IE "Cell selection and re-selection info for SIB11/12" is present:
  - ignore the IE.

[…]

8.6.7.14 Inter-frequency measurement

If the Inter-frequency cell info list, included in the variable CELL_INFO_LIST, includes a number (M) of frequencies that is larger than the number (N) considered in a UE performance requirement defined in [19] and [20]:

- the UE shall meet this performance requirement on the first relevant (N) frequencies, according to the order defined by the position of the frequencies in the Inter-frequency cell info list, included in the variable CELL_INFO_LIST
- the UE may ignore the remaining (M-N) frequencies.

If IE "Inter-frequency measurement" is received by the UE in a MEASUREMENT CONTROL message, where IE "measurement command" has the value "setup", but IE "Inter-frequency measurement quantity", IE "Inter-frequency reporting quantity" or "CHOICE Report criteria" is not received, the UE shall:

- clear all stored measurement control information related associated to this measurement identity in variable MEASUREMENT_IDENTITY;
- set the variable CONFIGURATION_INCOMPLETE to TRUE;
- in the case of an inter-frequency measurement for FDD:
  - if IE "Inter-frequency measurement" is received by the UE in a MEASUREMENT CONTROL message, where IE "measurement command" has the value "setup", if an inter-frequency event is configured that is different from event 2d or 2f, and if the IE "Inter-frequency SET UPDATE" is not received in that same message:
    - set the variable CONFIGURATION_INCOMPLETE to TRUE.
  - if the IE "Inter-frequency SET UPDATE" is received:

- if the value of the IE "UE autonomous update mode" set to "Off" or "On":
  - if more than one frequency is included in the list of cells pointed at in the IE "cells for measurement" if also included in the same IE "Inter-frequency measurement", or otherwise included in the "Inter-frequency cell info" part of the variable CELL_INFO_LIST:
    - set the variable INVALID_CONFIGURATION to TRUE.

If the variable CONFIGURATION_INCOMPLETE is set to TRUE, the UE shall:

- act as described in subclause 8.4.1.4a.

8.6.7.15 Inter-RAT measurement

If the Inter-RAT cell info list, included in the variable CELL_INFO_LIST, includes a number (M) of frequencies that is larger than the number (N) considered in a UE performance requirement defined in [19] and [20]:

- the UE shall meet this performance requirement on the first relevant (N) frequencies, according to the order defined by the position of the frequencies in the Inter-RAT cell info list, included in the variable CELL_INFO_LIST
- the UE may ignore the remaining (M-N) frequencies.

If IE "Inter-RAT measurement" is received by the UE in a MEASUREMENT CONTROL message, where IE "measurement command" has the value "setup", but IE "Inter-RAT measurement quantity", IE "Inter-RAT reporting quantity" or "CHOICE Report criteria" is not received, the UE shall:

- clear all stored measurement control information related associated to this measurement identity in variable MEASUREMENT_IDENTITY;
- set the variable CONFIGURATION_INCOMPLETE to TRUE.

[…]

3GPP TSG-RAN WG2 Meeting #27
Orlando, USA, February 18th – 22nd, 2002

Tdoc R2-020438

CR-Form-v5

CHANGE REQUEST

⌘ **25.331** **CR** **1349** ⌘ **rev** **-** ⌘ Current version: **4.3.0** ⌘

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

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

Title:	⌘	Corrections to support combined Cell/URA update and SRNS relocation procedure
Source:	⌘	TSG-RAN WG2
Work item code:	⌘	TEI
Date:	⌘	February 2002
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)

Reason for change: ⌘ To support combined Cell/URA update and SRNS relocation,
- the Source RNC should transfer the VT(US) of the SRB#1 to the Target RNC.
- the CELL/URA UPDATE CONFIRM or UTRAN MOBILITY INFORMATION should be transmitted on DCCH using UM RLC (SRB#1).
- the first UMD PDU should include "Use Special LI".
- ~~the IE "RLC re-establish indicator (RB2, RB3 and RB4)" should not be included in the CELL UPDATE CONFIRM message.~~

Summary of change: ⌘
1. VT(US) is added in the "RRC information container" for SRB#1
2. In case of SRNS relocation, the CELL/URA UPDATE CONFIRM or UTRAN MOBILITY INFORMATION is made to be sent on SRB#1 only.
3. "Use Special LI" can be used for the DL DCCH case.
4. ~~The useless IE "RLC re-establish indicator (RB2, RB3 and RB4)" is removed in the CELL/URA UPDATE CONFIRM message.~~

/* Note */
1. UE should be able to receive "Special LI" on DL DCCH also.
2. This CR has only impacts on Source and Target RNC.

Isolated Impact Analysis: Proposed change has an isolated impact. Affected functionality is SRNS relocation. Would not affect implementations behaving like indicated in the CR, would affect implementations supporting the corrected functionality otherwise.

The changes for Rev 1 are highlighted.
The changes for Rev 2 are colored green.
Rev 3 : 3100 is changed back to 3a0 in ASN.1

Consequences if not approved: ⌘ Failure of combined Cell/URA update and SRNS relocation procedure.

Clauses affected:	⌘	6.3, 8.3.1.5, 8.3.3.2, 11.5, 14.12.4.2		
Other specs affected:	⌘	☐ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	25.331 v3.9.0, CR 1348r3
Other comments:	⌘			

How to create CRs using this form:

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

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

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://www.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 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.

6.3 Signalling Radio Bearers

The Radio Bearers (RB) available for transmission of RRC messages are defined as "signalling radio bearers" and are specified in the following. The UE and UTRAN shall select the signalling radio bearers for RRC messages using RLC-TM, RLC-UM or RLC-AM on the DCCH and CCCH, according to the following:

- Signalling radio bearer RB0 shall be used for all messages sent on the CCCH (UL: RLC-TM, DL: RLC-UM).
- Signalling radio bearer RB1 shall be used for all messages sent on the DCCH, when using RLC unacknowledged mode (RLC-UM).
- Signalling radio bearer RB2 shall be used for all messages sent on the DCCH, when using RLC acknowledged mode (RLC-AM), except for the RRC messages carrying higher layer (NAS) signalling.
- Signalling radio bearer RB3 and optionally Signalling radio bearer RB4 shall be used for the RRC messages carrying higher layer (NAS) signalling and sent on the DCCH in RLC acknowledged mode (RLC-AM), as specified in subclauses 8.1.8., 8.1.9 and 8.1.10.
- RRC messages on the SHCCH are mapped either on RACH or on the USCH in the uplink using TM and either on FACH or on the DSCH using RLC-UM. These messages are only specified for TDD mode.

The Radio Bearer configuration for signalling radio bearer RB0, SHCCH, BCCH on FACH and PCCH on PCH are specified in subclauses 13.6, 13.6a, 13.6b and 13.6c.

When an RRC message is transmitted in DL on DCCH ~~(in case of SRNS relocation)~~ or CCCH or SHCCH using RLC UM, RRC should indicate to RLC that a special RLC length indicator should be used [16]. The UE shall assume that this indication has been given. The special length indicator indicates that an RLC SDU begins in the beginning of an RLC PDU.

8.3 RRC connection mobility procedures

8.3.1.5 Reception of an CELL UPDATE/URA UPDATE message by the UTRAN

When the UTRAN receives a CELL UPDATE/URA UPDATE message, ~~it may either~~the UTRAN should:

- in case the procedure was triggered by reception of a CELL UPDATE:

  - if SRNS relocation was performed:

    - transmit a CELL UPDATE CONFIRM message on the downlink DCCH;

  - otherwise:

    - ~~-~~update the START value for each CN domain as maintained in UTRAN (refer to subclause 8.5.9) with "START" in the IE "START list" for the CN domain as indicated by "CN domain identity" in the IE "START list"; /* Note to Hans; the indent was changed to B3 */

    - if this procedure was triggered while the UE was not in CELL_DCH state, then for each CN domain as indicated by "CN domain identity" in the IE "START list": /* Note to Hans; the indent was changed to B3 */

- set the 20 MSB of the MAC-d HFN with the corresponding START value in the IE "START list"; /* Note to Hans; the indent was changed to B4 */

- set the remaining LSB of the MAC-d HFN to zero. /* Note to Hans; the indent was changed to B4 */

- transmit a CELL UPDATE CONFIRM message on the downlink DCCH or optionally on the CCCH but only if ciphering is not required; and /* Note to Hans; the indent was changed to B3 */

- optionally include the IE "RLC re-establish indicator (RB5 and upwards)" to request a RLC re-establishment in the UE, in which case the corresponding RLC entities should also be re-established in UTRAN; or /* Note to Hans; the indent was changed to B3 */

- in case the procedure was triggered by reception of a URA UPDATE:

  - if SRNS relocation was performed:

    - transmit a URA UPDATE CONFIRM message on the downlink DCCH;

  - otherwise:

    - transmit a URA UPDATE CONFIRM message on the downlink CCCH or DCCH;

  - ~~transmit a URA UPDATE CONFIRM message to the lower layers for transmission on the downlink CCCH or DCCH in which case the UTRAN should~~ include the IE "URA identity" in the URA UPDATE CONFIRM message in a cell where multiple URA identifiers are broadcast; or

- initiate an RRC connection release procedure (see subclause 8.1.4) by transmitting an RRC CONNECTION RELEASE message on the downlink CCCH. In particular UTRAN should:

  - if the CELL UPDATE message was sent because of an unrecoverable error in RB2, RB3 or RB4:

    - initiate an RRC connection release procedure (subclause 8.1.4) by transmitting an RRC CONNECTION RELEASE message on the downlink CCCH.

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

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

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

- if the message is received on DCCH:

the UE shall:

- stop timer T302;

- in case of a cell update procedure and the CELL UPDATE CONFIRM message:

  - includes "RB information elements"; and/or

  - includes "Transport channel information elements"; and/or

  - includes "Physical channel information elements"; and

  - if the variable ORDERED_RECONFIGURATION is set to FALSE:

    - set the variable ORDERED_RECONFIGURATION to TRUE;

- act upon all received information elements as specified in subclause 8.6, unless specified otherwise in the following:

- if the IE "Frequency info" is included in the message:
    - if the IE "RRC State Indicator" is set to the value "CELL_FACH" or "CELL_PCH" or URA_PCH":
        - select a suitable UTRA cell according to [4] on that frequency;
        - act as specified in subclause 8.3.1.12.
    - if the IE "RRC State Indicator" is set to the value "CELL_DCH":
        - act on the IE "Frequency info" as specified in subclause 8.6.6.1.
- use the transport channel(s) applicable for the physical channel types that is used; and
- if the IE "TFS" is neither included nor previously stored in the UE for that transport channel(s):
    - use the TFS given in system information.
- if none of the TFS stored is compatible with the physical channel:
    - delete the stored TFS;
    - use the TFS given in system information.
- perform the physical layer synchronisation procedure as specified in [29];
- if the CELL UPDATE CONFIRM message includes the IE "RLC re-establish indicator (RB2, RB3 and RB4)":
    - re-establish the RLC entities for signalling radio bearer RB2, signalling radio bearer RB3 and signalling radio bearer RB4 (if established);
    - if the value of the IE "Status" in the variable CIPHERING_STATUS of the CN domain stored in the variable LATEST_CONFIGURED_CN_DOMAIN is set to "Started":
        - set the HFN values for AM RLC entities with RB identity 2,RB identity 3 and RB identity 4 (if established) equal to the START value included in the latest transmitted CELL UPDATE message for the CN domain stored in the variable LATEST_CONFIGURED_CN_DOMAIN;
- if the CELL UPDATE CONFIRM message includes the IE "RLC re-establish indicator (RB5 and upwards)":
    - for radio bearers with RB identity 5 and upwards:
        - re-establish the AM RLC entities;
        - if the value of the IE "Status" in the variable CIPHERING_STATUS of the CN domain as indicated in the IE "CN domain identity" in the IE "RAB info" in the variable ESTABLISHED_RABS is set to "Started":
            - set the HFN values for AM RLC entities equal to the START value included in this CELL UPDATE message for the CN domain as indicated in the IE "CN domain identity" in the IE "RAB info" in the variable ESTABLISHED_RABS;
- enter a state according to subclause 8.6.3.3 applied on the CELL UPDATE CONFIRM / URA UPDATE CONFIRM message.

8.3.3 UTRAN mobility information

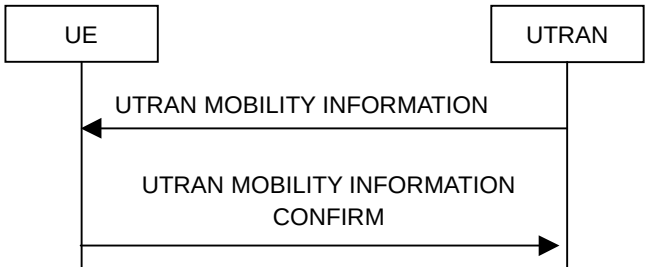

Figure 8.3.3-1: UTRAN mobility information procedure, normal flow

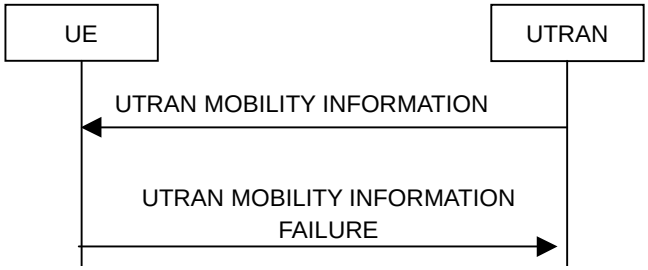

Figure 8.3.3-2: UTRAN mobility information procedure, failure case

8.3.3.1 General

The purpose of this procedure is to allocate any one or a combination of the following to a UE in connected mode:

- a new C-RNTI;
- a new U-RNTI;
- other mobility related information.

8.3.3.2 Initiation

To initiate the procedure UTRAN transmits a UTRAN MOBILITY INFORMATION message to the UE on the downlink DCCH using AM or UM RLC. In case of SRNS relocation, the message is sent using UM RLC only.

10.2.8 CELL UPDATE CONFIRM

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

RLC-SAP: UM

Logical channel: CCCH or DCCH

Direction: UTRAN→UE

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Message Type	MP		Message Type	
UE Information Elements				
U-RNTI	CV-*CCCH*		U-RNTI 10.3.3.47	
RRC transaction identifier	MP		RRC transaction identifier 10.3.3.36	
Integrity check info	CH		Integrity check info 10.3.3.16	
Integrity protection mode info	OP		Integrity protection mode info 10.3.3.19	
Ciphering mode info	OP		Ciphering mode info 10.3.3.5	
Activation time	MD		Activation time 10.3.3.1	Default value is "now"
New U-RNTI	OP		U-RNTI 10.3.3.47	
New C-RNTI	OP		C-RNTI 10.3.3.8	
RRC State Indicator	MP		RRC State Indicator 10.3.3.10	
UTRAN DRX cycle length coefficient	MD		UTRAN DRX cycle length coefficient 10.3.3.49	Default value is the existing DRX cycle length coefficient
RLC re-establish indicator (RB2, RB3 and RB4)	MP		RLC re-establish indicator 10.3.3.35	
RLC re-establish indicator (RB5 and upwards)	MP		RLC re-establish indicator 10.3.3.35	
CN Information Elements				
CN Information info	OP		CN Information info 10.3.1.3	
UTRAN Information Elements				
URA identity	OP		URA identity 10.3.2.6	
RB information elements				
RB information to release list	OP	1 to <maxRB>		
>RB information to release	MP		RB information to release 10.3.4.19	
RB information to reconfigure list	OP	1 to <maxRB>		
>RB information to reconfigure	MP		RB information to reconfigure 10.3.4.18	
RB information to be affected list	OP	1 to <maxRB>		
>RB information to be affected	MP		RB	

Information Element/Group name	Need	Multi	Type and reference	Semantics description
			information to be affected 10.3.4.17	
Downlink counter synchronisation info	OP			
>RB with PDCP information list	OP	1 to <maxRBallRABs>		This IE is needed for each RB having PDCP in the case of lossless SRNS relocation
>>RB with PDCP information	MP		RB with PDCP information 10.3.4.22	
TrCH Information Elements				
Uplink transport channels				
UL Transport channel information common for all transport channels	OP		UL Transport channel information common for all transport channels 10.3.5.24	
Deleted TrCH information list	OP	1 to <maxTrCH>		
>Deleted UL TrCH information	MP		Deleted UL TrCH information 10.3.5.5	
Added or Reconfigured TrCH information list	OP	1 to <maxTrCH>		
>Added or Reconfigured UL TrCH information	MP		Added or Reconfigured UL TrCH information 10.3.5.2	
CHOICE *mode*	MP			
>FDD				
>>CPCH set ID	OP		CPCH set ID 10.3.5.3	
>>Added or Reconfigured TrCH information for DRAC list	OP	1 to <maxTrCH>		
>>>DRAC static information	MP		DRAC static information 10.3.5.7	
>TDD				(no data)
Downlink transport channels				
DL Transport channel information common for all transport channels	OP		DL Transport channel information common for all transport channels 10.3.5.6	
Deleted TrCH information list	OP	1 to <maxTrCH>		
>Deleted DL TrCH information	MP		Deleted DL TrCH information 10.3.5.4	
Added or Reconfigured TrCH	OP	1 to		

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

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

11.2 PDU definitions

…

```
-- ************************************************
--
-- CELL UPDATE CONFIRM
--
-- ************************************************

CellUpdateConfirm ::= CHOICE {
    r3                              SEQUENCE {
        cellUpdateConfirm-r3            CellUpdateConfirm-r3-IEs,
        nonCriticalExtensions           SEQUENCE {} OPTIONAL
    },
    later-than-r3                   SEQUENCE {
        rrc-TransactionIdentifier       RRC-TransactionIdentifier,
        criticalExtensions              SEQUENCE {}
    }
}

CellUpdateConfirm-r3-IEs ::= SEQUENCE {
    -- User equipment IEs
        rrc-TransactionIdentifier       RRC-TransactionIdentifier,
        integrityProtectionModeInfo     IntegrityProtectionModeInfo         OPTIONAL,
        cipheringModeInfo               CipheringModeInfo                   OPTIONAL,
        activationTime                  ActivationTime                      OPTIONAL,
        new-U-RNTI                      U-RNTI                              OPTIONAL,
        new-C-RNTI                      C-RNTI                              OPTIONAL,
        rrc-StateIndicator              RRC-StateIndicator,
        utran-DRX-CycleLengthCoeff      UTRAN-DRX-CycleLengthCoefficient    OPTIONAL,
        rlc-Re-establishIndicatorRb2-3or4   BOOLEAN,
        rlc-Re-establishIndicatorRb5orAbove BOOLEAN,
 -- CN information elements
        cn-InformationInfo              CN-InformationInfo                  OPTIONAL,
    -- UTRAN mobility IEs
        ura-Identity                    URA-Identity                        OPTIONAL,
    -- Radio bearer IEs
        rb-InformationReleaseList       RB-InformationReleaseList           OPTIONAL,
        rb-InformationReconfigList      RB-InformationReconfigList          OPTIONAL,
        rb-InformationAffectedList      RB-InformationAffectedList          OPTIONAL,
        dl-CounterSynchronisationInfo   DL-CounterSynchronisationInfo       OPTIONAL,
    -- Transport channel IEs
        ul-CommonTransChInfo            UL-CommonTransChInfo                OPTIONAL,
        ul-deletedTransChInfoList       UL-DeletedTransChInfoList           OPTIONAL,
        ul-AddReconfTransChInfoList     UL-AddReconfTransChInfoList         OPTIONAL,
        modeSpecificTransChInfo         CHOICE {
            fdd                             SEQUENCE {
                cpch-SetID                      CPCH-SetID                  OPTIONAL,
                addReconfTransChDRAC-Info       DRAC-StaticInformationList  OPTIONAL
            },
            tdd                             NULL
        },
        dl-CommonTransChInfo            DL-CommonTransChInfo                OPTIONAL,
        dl-DeletedTransChInfoList       DL-DeletedTransChInfoList           OPTIONAL,
        dl-AddReconfTransChInfoList     DL-AddReconfTransChInfoList         OPTIONAL,
    -- Physical channel IEs
        frequencyInfo                   FrequencyInfo                       OPTIONAL,
        maxAllowedUL-TX-Power           MaxAllowedUL-TX-Power               OPTIONAL,
        ul-ChannelRequirement           UL-ChannelRequirement               OPTIONAL,
        modeSpecificPhysChInfo          CHOICE {
            fdd                             SEQUENCE {
                dl-PDSCH-Information            DL-PDSCH-Information        OPTIONAL
            },
            tdd                             NULL
        },
        dl-CommonInformation            DL-CommonInformation                OPTIONAL,
        dl-InformationPerRL-List        DL-InformationPerRL-List            OPTIONAL
}

-- ************************************************
--
-- CELL UPDATE CONFIRM for CCCH
--
-- ************************************************

CellUpdateConfirm-CCCH ::= CHOICE {
```

```
    r3                              SEQUENCE {
        -- User equipment IEs
            u-RNTI                      U-RNTI,
        -- The rest of the message is identical to the one sent on DCCH.

            cellUpdateConfirm-r3                CellUpdateConfirm-r3-IEs,
        nonCriticalExtensions           SEQUENCE {} OPTIONAL
    },
    later-than-r3                   SEQUENCE {
        rrc-TransactionIdentifier       RRC-TransactionIdentifier,
        criticalExtensions              SEQUENCE {}
    }
}
```

11.5 RRC information between network nodes

```
IMPORTS
-- Radio Bearer IEs :
    PredefinedConfigStatusList,
    PredefinedConfigValueTag,
    RAB-InformationSetupList,
    RB-Identity,
    SRB-InformationSetupList,

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

SRNC-RelocationInfo ::= CHOICE {
    r3                              SEQUENCE {
        sRNC-RelocationInfo-r3          SRNC-RelocationInfo-r3-IEs,
        v380NonCriticalExtensions           SEQUENCE {
            sRNC-RelocationInfo-v380ext SRNC-RelocationInfo-v380ext-IEs,
            -- Reserved for future non critical extension
            v390NonCriticalExtensions           SEQUENCE {
                sRNC-RelocationInfo-v390ext         SRNC-RelocationInfo-v390ext-IEs,
                v3a0NonCriticalExtensions           SEQUENCE {
                    sRNC-RelocationInfo-v3a0ext         SRNC-RelocationInfo-v3a0ext-IEs,
                    -- Reserved for future non critical extension
                    nonCriticalExtensions           SEQUENCE {} OPTIONAL
                }       OPTIONAL
            }       OPTIONAL
        }       OPTIONAL
    },
    criticalExtensions              SEQUENCE {}
}

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

```
        cn-DomainInformationList        CN-DomainInformationList            OPTIONAL,
    -- Measurement IEs
        ongoingMeasRepList              OngoingMeasRepList                  OPTIONAL,
    -- Radio bearer IEs
        predefinedConfigStatusList      PredefinedConfigStatusList,
        srb-InformationList             SRB-InformationSetupList,
        rab-InformationList             RAB-InformationSetupList            OPTIONAL,
    -- Transport channel IEs
        ul-CommonTransChInfo            UL-CommonTransChInfo                OPTIONAL,
        ul-TransChInfoList              UL-AddReconfTransChInfoList         OPTIONAL,
        modeSpecificInfo                CHOICE {
            fdd                             SEQUENCE {
                cpch-SetID                      CPCH-SetID                  OPTIONAL,
                transChDRAC-Info                DRAC-StaticInformationList  OPTIONAL
            },
            tdd                             NULL
        },
        dl-CommonTransChInfo            DL-CommonTransChInfo                OPTIONAL,
        dl-TransChInfoList              DL-AddReconfTransChInfoList         OPTIONAL,
    -- Measurement report
        measurementReport               MeasurementReport                   OPTIONAL
}

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

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

SRNC-RelocationInfo-v3a0ext-IEs ::= SEQUENCE{
        CipheringInfoForSRB1PerRB-List-v3a0ext      CipheringInfoPerRB-List-v3a0ext
}

CipheringInfoPerRB-List-v3a0ext ::= SEQUENCE{
        dl-UM-SN                        BIT STRING(7)
}
```

14.12.4.2 SRNS RELOCATION INFO

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

Direction: source RAT→target RNC

Information Element/Group Name	Need	Multi	Type and reference	Semantics description
Non RRC Ies				
>State of RRC	MP		RRC state indicator, 10.3.3.10	
>State of RRC procedure	MP		Enumerated (await no RRC message, Complete, await RB Setup Complete, await RB Reconfiguration Complete, await RB Release Complete, await Transport	

Information Element/Group Name	Need	Multi	Type and reference	Semantics description
			CH Reconfiguration Complete, await Physical CH Reconfiguration Complete, await Active Set Update Complete, await Handover Complete, send Cell Update Confirm, send URA Update Confirm, , others)	
Ciphering related information				
>Ciphering status for each CN domain	MP	<1 to maxCNDomains>		
>>CN domain identity	MP		CN domain identity 10.3.1.1	
>>Ciphering status	MP		Enumerated(Not started, Started)	
>Latest configured CN domain	MP		CN domain identity 10.3.1.1	Value contained in the variable of the same name.
>Calculation time for ciphering related information	CV-*Ciphering*			Time when the ciphering information of the message were calculated, relative to a cell of the target RNC
>>Cell Identity	MP		Cell Identity 10.3.2.2	Identity of one of the cells under the target RNC and included in the active set of the current call
>>SFN	MP		Integer(0..4095)	
>COUNT-C list	CV-*Ciphering*	1 to <maxCNdomains>		COUNT-C values for radio bearers using transparent mode RLC
>>CN domain identity	MP		CN domain identity 10.3.1.1	
>>COUNT-C	MP		Bit string(32)	
>Ciphering info per radio bearer	OP	1 to <maxRB>		For signalling radio bearers this IE is mandatory.
>>RB identity	MP		RB identity 10.3.4.16	
>>Downlink HFN	MP		Bit string(20..25)	This IE is either RLC AM HFN (20 bits) or RLC UM HFN (25 bits)
>>Downlink SN	CV-*SRB1*		Bit String(7)	VT(US) of RLC UM
>>Uplink HFN	MP		Bit string(20..25)	This IE is either RLC AM HFN (20 bits) or RLC UM HFN (25 bits)

Information Element/Group Name	Need	Multi	Type and reference	Semantics description
Integrity protection related information				
>Integrity protection status	MP		Enumerated(Not started, Started)	
>Signalling radio bearer specific integrity protection information	CV-*IP*	4 to <maxSRBsetup>		
>>Uplink RRC HFN	MP		Bit string (28)	
>>Downlink RRC HFN	MP		Bit string (28)	
>>Uplink RRC Message sequence number	MP		Integer (0..15)	
>>Downlink RRC Message sequence number	MP		Integer (0..15)	
>Implementation specific parameters	OP		Bit string (1..512)	
RRC IEs				
UE Information elements				
>U-RNTI	MP		U-RNTI 10.3.3.47	
>C-RNTI	OP		C-RNTI 10.3.3.8	
>UE radio access Capability	MP		UE radio access capability 10.3.3.42	
>UE radio access capability extension	OP		UE radio access capability extension 10.3.3.42a	
>Last known UE position	OP			
>>SFN	MP		Integer (0..4095)	Time when position was estimated
>>Cell ID	MP		Cell identity; 10.3.2.2	Indicates the cell, the SFN is valid for.
>>CHOICE *Position estimate*	MP			
>>>Ellipsoid Point			Ellipsoid Point; 10.3.8.4a	
>>>Ellipsoid point with uncertainty circle			Ellipsoid point with uncertainty circle 10.3.8.4d	
>>>Ellipsoid point with uncertainty ellipse			Ellipsoid point with uncertainty ellipse 10.3.8.4e	
>>>Ellipsoid point with altitude			Ellipsoid point with altitude 10.3.8.4b	
>>>Ellipsoid point with altitude and uncertainty ellipsoid			Ellipsoid point with altitude and uncertainty ellipsoid 10.3.8.4c	
Other Information elements				
>UE system specific capability	OP	1 to <maxSyste		

Information Element/Group Name	Need	Multi	Type and reference	Semantics description
		mCapability>		
>>Inter-RAT UE radio access capability	MP		Inter-RAT UE radio access capability 10.3.8.7	
UTRAN Mobility Information elements				
>URA Identifier	OP		URA identity 10.3.2.6	
CN Information Elements				
>CN common GSM-MAP NAS system information	MP		NAS system information (GSM-MAP) 10.3.1.9	
>CN domain related information	OP	1 to <MaxCNdomains>		CN related information to be provided for each CN domain
>>CN domain identity	MP			
>>CN domain specific GSM-MAP NAS system info	MP		NAS system information (GSM-MAP) 10.3.1.9	
>>CN domain specific DRX cycle length coefficient	MP		CN domain specific DRX cycle length coefficient, 10.3.3.6	
Measurement Related Information elements				
>For each ongoing measurement reporting	OP	1 to <MaxNoOfMeas>		
>>Measurement Identity	MP		Measurement identity 10.3.7.48	
>>Measurement Command	MP		Measurement command 10.3.7.46	
>>Measurement Type	CV-*Setup*		Measurement type 10.3.7.50	
>>Measurement Reporting Mode	OP		Measurement reporting mode 10.3.7.49	
>>Additional Measurements list	OP		Additional measurements list 10.3.7.1	
>>CHOICE *Measurement*	OP			
>>>Intra-frequency				
>>>>Intra-frequency cell info	OP		Intra-frequency cell info list 10.3.7.33	
>>>>Intra-frequency measurement quantity	OP		Intra-frequency measurement quantity 10.3.7.38	
>>>>Intra-frequency reporting quantity	OP		Intra-frequency reporting	

Information Element/Group Name	Need	Multi	Type and reference	Semantics description
			quantity 10.3.7.41	
>>>>Reporting cell status	OP		Reporting cell status 10.3.7.61	
>>>>Measurement validity	OP		Measurement validity 10.3.7.51	
>>>>CHOICE *report criteria*	OP			
>>>>>Intra-frequency measurement reporting criteria			Intra-frequency measurement reporting criteria 10.3.7.39	
>>>>>Periodical reporting			Periodical reporting criteria 10.3.7.53	
>>>>>No reporting			NULL	
>>>Inter-frequency				
>>>>Inter-frequency cell info	OP		Inter-frequency cell info list 10.3.7.13	
>>>>Inter-frequency measurement quantity	OP		Inter-frequency measurement quantity 10.3.7.18	
>>>>Inter-frequency reporting quantity	OP		Inter-frequency reporting quantity 10.3.7.21	
>>>>Reporting cell status	OP		Reporting cell status 10.3.7.61	
>>>>Measurement validity	OP		Measurement validity 10.3.7.51	
>>>>CHOICE *report criteria*	OP			
>>>>>Inter-frequency measurement reporting criteria			Inter-frequency measurement reporting criteria 10.3.7.19	
>>>>>Periodical reporting			Periodical reporting criteria 10.3.7.53	
>>>>>No reporting			NULL	
>>>Inter-RAT				
>>>>Inter-RAT cell info	OP		Inter-RAT cell info list 10.3.7.23	
>>>>Inter-RAT measurement quantity	OP		Inter-RAT measurement quantity 10.3.7.29	
>>>>Inter-RAT reporting quantity	OP		Inter-RAT reporting quantity 10.3.7.32	

Information Element/Group Name	Need	Multi	Type and reference	Semantics description
>>>>Reporting cell status	OP		Reporting cell status 10.3.7.61	
>>>>Measurement validity	OP		Measurement validity 10.3.7.51	
>>>>CHOICE *report criteria*	OP			
>>>>>Inter-RAT measurement reporting criteria			Inter-RAT measurement reporting criteria 10.3.7.30	
>>>>>Periodical reporting			Periodical reporting criteria 10.3.7.53	
>>>>>No reporting			NULL	
>>>Traffic Volume				
>>>>Traffic volume measurement Object	OP		Traffic volume measurement object 10.3.7.70	
>>>>Traffic volume measurement quantity	OP		Traffic volume measurement quantity 10.3.7.71	
>>>>Traffic volume reporting quantity	OP		Traffic volume reporting quantity 10.3.7.74	
>>>>CHOICE *report criteria*	OP			
>>>>>Traffic volume measurement reporting criteria			Traffic volume measurement reporting criteria 10.3.7.72	
>>>>>Periodical reporting			Periodical reporting criteria 10.3.7.53	
>>>>>No reporting			NULL	
>>>Quality				
>>>>Quality measurement Object	OP		Quality measurement object	
>>>>CHOICE *report criteria*	OP			
>>>>>Quality measurement reporting criteria			Quality measurement reporting criteria 10.3.7.58	
>>>>>Periodical reporting			Periodical reporting criteria 10.3.7.53	
>>>>>No reporting			NULL	
>>>UE internal				
>>>>UE internal measurement quantity	OP		UE internal measurement quantity 10.3.7.79	

Information Element/Group Name	Need	Multi	Type and reference	Semantics description
>>>>UE internal reporting quantity	OP		UE internal reporting quantity 10.3.7.82	
>>>>CHOICE *report criteria*	OP			
>>>>>UE internal measurement reporting criteria			UE internal measurement reporting criteria 10.3.7.80	
>>>>>Periodical reporting			Periodical reporting criteria 10.3.7.53	
>>>>>No reporting			NULL	
>>>UE positioning				
>>>>LCS reporting quantity	OP		LCS reporting quantity 10.3.7.111	
>>>>CHOICE *report criteria*	OP			
>>>>>LCS reporting criteria			LCS reporting criteria 10.3.7.110	
>>>>>Periodical reporting			Periodical reporting criteria 10.3.7.53	
>>>>>No reporting				
Radio Bearer Information Elements				
>Pre-defined configuration status information	OP		Pre-defined configuration status information 14.13.2.3	
>Signalling RB information list	MP	1 to <maxSRBsetup>		For each signalling radio bearer
>>Signalling RB information	MP		Signalling RB information to setup 10.3.4.24	
>RAB information list	OP	1 to <maxRABsetup>		Information for each RAB
>>RAB information	MP		RAB information to setup 10.3.4.10	
Transport Channel Information Elements				
Uplink transport channels				
>UL Transport channel information common for all transport channels	OP		UL Transport channel information common for all transport channels 10.3.5.24	
>UL transport channel information list	OP	1 to <MaxTrCH>		

Information Element/Group Name	Need	Multi	Type and reference	Semantics description
>>UL transport channel information	MP		Added or reconfigured UL TrCH information 10.3.5.2	
>CHOICE *mode*	OP			
>>FDD				
>>>CPCH set ID	OP		CPCH set ID 10.3.5.5	
>>>Transport channel information for DRAC list	OP	1 to <MaxTrCH>		
>>>>DRAC static information	MP		DRAC static information 10.3.5.7	
>>TDD				(no data)
Downlink transport channels				
>DL Transport channel information common for all transport channels	OP		DL Transport channel information common for all transport channels 10.3.5.6	
>DL transport channel information list	OP	1 to <MaxTrCH>		
>>DL transport channel information	MP		Added or reconfigured DL TrCH information 10.3.5.1	
>Measurement report	OP		MEASUREMENT REPORT 10.2.17	
Other Information elements				
Failure cause	OP		Failure cause 10.3.3.13	Diagnostics information related to an earlier SRNC Relocation request (see NOTE 2 in 14.12.0a)
Protocol error information	CV-*ProtErr*		Protocol error information 10.3.8.12	

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

Condition	Explanation
Setup	The IE is mandatory present when the IE Measurement command has the value "Setup", otherwise the IE is not needed.
Ciphering	The IE is mandatory present when the IE Ciphering Status has the value "started" and the ciphering counters need not be reinitialised, otherwise the IE is not needed.
IP	The IE is mandatory present when the IE Integrity protection status has the value "started" and the integrity protection counters need not be reinitialised, otherwise the IE is not needed.
ProtErr	This IE is mandatory present if the IE "Protocol error indicator" is included and has the value "TRUE". Otherwise it is not needed.
SRB1	The IE is mandatory present for the SRB #1. Otherwise it is not needed.

3GPP TSG-RAN WG2 Meeting #27
Orlando, USA, February 18th – 22nd, 2002

Tdoc R2-020515

CR-Form-v5

CHANGE REQUEST

⌘ **25.331** **CR** **1348** ⌘ **rev** **r3** ⌘ Current version: **3.9.0** ⌘

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

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

Title:	⌘	Corrections to support combined Cell/URA update and SRNS relocation procedure
Source:	⌘	TSG-RAN WG2
Work item code:	⌘	TEI
Date:	⌘	February 2002
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)

Reason for change: ⌘ To support combined Cell/URA update and SRNS relocation,
- the Source RNC should transfer the VT(US) of the SRB#1 to the Target RNC.
- the CELL/URA UPDATE CONFIRM or UTRAN MOBILITY INFORMATION should be transmitted on DCCH using UM RLC (SRB#1).
- the first UMD PDU should include "Use Special LI".
- ~~the IE "RLC re-establish indicator (RB2, RB3 and RB4)" should not be included in the CELL UPDATE CONFIRM message.~~

Summary of change: ⌘
1. VT(US) is added in the "RRC information container" for SRB#1
2. In case of SRNS relocation, the CELL/URA UPDATE CONFIRM or UTRAN MOBILITY INFORMATION is made to be sent on SRB#1 only.
3. "Use Special LI" can be used for the DL DCCH case.
4. ~~The useless IE "RLC re-establish indicator (RB2, RB3 and RB4)" is removed in the CELL/URA UPDATE CONFIRM message.~~

/* Note */
1. UE should be able to receive "Special LI" on DL DCCH also.
2. This CR has only impacts on Source and Target RNC.

Isolated Impact Analysis: Proposed change has an isolated impact. Affected functionality is SRNS relocation. Would not affect implementations behaving like indicated in the CR, would affect implementations supporting the corrected functionality otherwise.

The changes for Rev 1 are highlighted.
The changes for Rev 2 are colored green.
Rev 3 : 3100 is changed back to 3a0 in ASN.1

Consequences if not approved: ⌘ Failure of combined Cell/URA update and SRNS relocation procedure.

Clauses affected:	⌘	6.3, 8.3.1.5, 8.3.3.2, 11.5, 14.12.4.2		
Other specs affected:	⌘	☐ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	25.331 v4.3.0, CR 1349
Other comments:	⌘			

How to create CRs using this form:

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

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

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://www.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 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.

6.3 Signalling Radio Bearers

The Radio Bearers (RB) available for transmission of RRC messages are defined as "signalling radio bearers" and are specified in the following. The UE and UTRAN shall select the signalling radio bearers for RRC messages using RLC-TM, RLC-UM or RLC-AM on the DCCH and CCCH, according to the following:

- Signalling radio bearer RB0 shall be used for all messages sent on the CCCH (UL: RLC-TM, DL: RLC-UM).
- Signalling radio bearer RB1 shall be used for all messages sent on the DCCH, when using RLC unacknowledged mode (RLC-UM).
- Signalling radio bearer RB2 shall be used for all messages sent on the DCCH, when using RLC acknowledged mode (RLC-AM), except for the RRC messages carrying higher layer (NAS) signalling.
- Signalling radio bearer RB3 and optionally Signalling radio bearer RB4 shall be used for the RRC messages carrying higher layer (NAS) signalling and sent on the DCCH in RLC acknowledged mode (RLC-AM), as specified in subclauses 8.1.8., 8.1.9 and 8.1.10.
- RRC messages on the SHCCH are mapped either on RACH or on the USCH in the uplink using TM and either on FACH or on the DSCH using RLC-UM. These messages are only specified for TDD mode.

The Radio Bearer configuration for signalling radio bearer RB0, SHCCH, BCCH on FACH and PCCH on PCH are specified in subclauses 13.6, 13.6a, 13.6b and 13.6c.

When an RRC message is transmitted in DL on DCCH ~~(in case of SRNS relocation)~~ or CCCH or SHCCH using RLC UM, RRC should indicate to RLC that a special RLC length indicator should be used [16]. The UE shall assume that this indication has been given. The special length indicator indicates that an RLC SDU begins in the beginning of an RLC PDU.

8.3 RRC connection mobility procedures

8.3.1.5 Reception of an CELL UPDATE/URA UPDATE message by the UTRAN

When the UTRAN receives a CELL UPDATE/URA UPDATE message, ~~it may either~~the UTRAN should:

- in case the procedure was triggered by reception of a CELL UPDATE:

  - if SRNS relocation was performed:

    - transmit a CELL UPDATE CONFIRM message on the downlink DCCH;

  - otherwise:

    - ~~-~~update the START value for each CN domain as maintained in UTRAN (refer to subclause 8.5.9) with "START" in the IE "START list" for the CN domain as indicated by "CN domain identity" in the IE "START list"; /* Note to Hans; the indent was changed to B3 */

    - if this procedure was triggered while the UE was not in CELL_DCH state, then for each CN domain as indicated by "CN domain identity" in the IE "START list": /* Note to Hans; the indent was changed to B3 */

- set the 20 MSB of the MAC-d HFN with the corresponding START value in the IE "START list"; /* Note to Hans; the indent was changed to B4 */

- set the remaining LSB of the MAC-d HFN to zero. /* Note to Hans; the indent was changed to B4 */

- transmit a CELL UPDATE CONFIRM message on the downlink DCCH or optionally on the CCCH but only if ciphering is not required; and /* Note to Hans; the indent was changed to B3 */

- optionally include the IE "RLC re-establish indicator (RB5 and upwards)" to request a RLC re-establishment in the UE, in which case the corresponding RLC entities should also be re-established in UTRAN; or /* Note to Hans; the indent was changed to B3 */

- in case the procedure was triggered by reception of a URA UPDATE:

  - if SRNS relocation was performed:

    - transmit a URA UPDATE CONFIRM message on the downlink DCCH;

  - otherwise:

    - transmit a URA UPDATE CONFIRM message on the downlink CCCH or DCCH;

  - ~~transmit a URA UPDATE CONFIRM message to the lower layers for transmission on the downlink CCCH or DCCH in which case the UTRAN should~~ include the IE "URA identity" in the URA UPDATE CONFIRM message in a cell where multiple URA identifiers are broadcast; or

- initiate an RRC connection release procedure (see subclause 8.1.4) by transmitting an RRC CONNECTION RELEASE message on the downlink CCCH. In particular UTRAN should:

  - if the CELL UPDATE message was sent because of an unrecoverable error in RB2, RB3 or RB4:

    - initiate an RRC connection release procedure (subclause 8.1.4) by transmitting an RRC CONNECTION RELEASE message on the downlink CCCH.

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

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

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

- if the message is received on DCCH:

the UE shall:

- stop timer T302;

- in case of a cell update procedure and the CELL UPDATE CONFIRM message:

  - includes "RB information elements"; and/or

  - includes "Transport channel information elements"; and/or

  - includes "Physical channel information elements"; and

  - if the variable ORDERED_RECONFIGURATION is set to FALSE:

    - set the variable ORDERED_RECONFIGURATION to TRUE;

- act upon all received information elements as specified in subclause 8.6, unless specified otherwise in the following:

- if the IE "Frequency info" is included in the message:
  - if the IE "RRC State Indicator" is set to the value "CELL_FACH" or "CELL_PCH" or URA_PCH":
    - select a suitable UTRA cell according to [4] on that frequency;
    - act as specified in subclause 8.3.1.12.
  - if the IE "RRC State Indicator" is set to the value "CELL_DCH":
    - act on the IE "Frequency info" as specified in subclause 8.6.6.1.
- use the transport channel(s) applicable for the physical channel types that is used; and
- if the IE "TFS" is neither included nor previously stored in the UE for that transport channel(s):
  - use the TFS given in system information.
- if none of the TFS stored is compatible with the physical channel:
  - delete the stored TFS;
  - use the TFS given in system information.
- perform the physical layer synchronisation procedure as specified in [29];
- if the CELL UPDATE CONFIRM message includes the IE "RLC re-establish indicator (RB2, RB3 and RB4)":
  - re-establish the RLC entities for signalling radio bearer RB2, signalling radio bearer RB3 and signalling radio bearer RB4 (if established);
  - if the value of the IE "Status" in the variable CIPHERING_STATUS of the CN domain stored in the variable LATEST_CONFIGURED_CN_DOMAIN is set to "Started":
    - set the HFN values for AM RLC entities with RB identity 2,RB identity 3 and RB identity 4 (if established) equal to the START value included in the latest transmitted CELL UPDATE message for the CN domain stored in the variable LATEST_CONFIGURED_CN_DOMAIN;
- if the CELL UPDATE CONFIRM message includes the IE "RLC re-establish indicator (RB5 and upwards)":
  - for radio bearers with RB identity 5 and upwards:
    - re-establish the AM RLC entities;
    - if the value of the IE "Status" in the variable CIPHERING_STATUS of the CN domain as indicated in the IE "CN domain identity" in the IE "RAB info" in the variable ESTABLISHED_RABS is set to "Started":
      - set the HFN values for AM RLC entities equal to the START value included in this CELL UPDATE message for the CN domain as indicated in the IE "CN domain identity" in the IE "RAB info" in the variable ESTABLISHED_RABS;
- enter a state according to subclause 8.6.3.3 applied on the CELL UPDATE CONFIRM / URA UPDATE CONFIRM message.

8.3.3 UTRAN mobility information

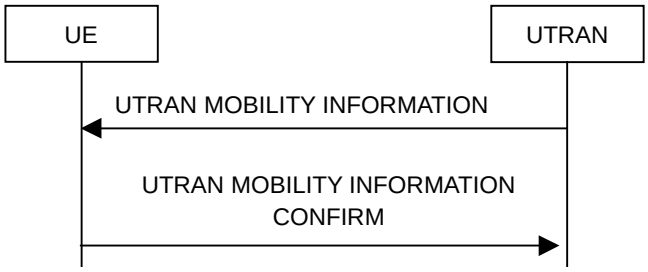

Figure 8.3.3-1: UTRAN mobility information procedure, normal flow

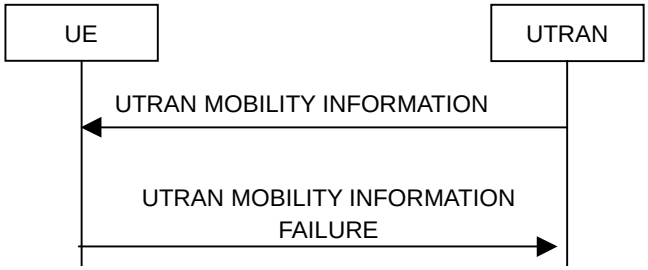

Figure 8.3.3-2: UTRAN mobility information procedure, failure case

8.3.3.1 General

The purpose of this procedure is to allocate any one or a combination of the following to a UE in connected mode:

- a new C-RNTI;
- a new U-RNTI;
- other mobility related information.

8.3.3.2 Initiation

To initiate the procedure UTRAN transmits a UTRAN MOBILITY INFORMATION message to the UE on the downlink DCCH using AM or UM RLC. In case of SRNS relocation, the message is sent using UM RLC only.

10.2.8 CELL UPDATE CONFIRM

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

RLC-SAP: UM

Logical channel: CCCH or DCCH

Direction: UTRAN→UE

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Message Type	MP		Message Type	
UE Information Elements				
U-RNTI	CV-*CCCH*		U-RNTI 10.3.3.47	
RRC transaction identifier	MP		RRC transaction identifier 10.3.3.36	
Integrity check info	CH		Integrity check info 10.3.3.16	
Integrity protection mode info	OP		Integrity protection mode info 10.3.3.19	
Ciphering mode info	OP		Ciphering mode info 10.3.3.5	
Activation time	MD		Activation time 10.3.3.1	Default value is "now"
New U-RNTI	OP		U-RNTI 10.3.3.47	
New C-RNTI	OP		C-RNTI 10.3.3.8	
RRC State Indicator	MP		RRC State Indicator 10.3.3.10	
UTRAN DRX cycle length coefficient	MD		UTRAN DRX cycle length coefficient 10.3.3.49	Default value is the existing DRX cycle length coefficient
RLC re-establish indicator (RB2, RB3 and RB4)	MP		RLC re-establish indicator 10.3.3.35	
RLC re-establish indicator (RB5 and upwards)	MP		RLC re-establish indicator 10.3.3.35	
CN Information Elements				
CN Information info	OP		CN Information info 10.3.1.3	
UTRAN Information Elements				
URA identity	OP		URA identity 10.3.2.6	
RB information elements				
RB information to release list	OP	1 to <maxRB>		
>RB information to release	MP		RB information to release 10.3.4.19	
RB information to reconfigure list	OP	1 to <maxRB>		
>RB information to reconfigure	MP		RB information to reconfigure 10.3.4.18	
RB information to be affected list	OP	1 to <maxRB>		
>RB information to be affected	MP		RB	

Information Element/Group name	Need	Multi	Type and reference	Semantics description
			information to be affected 10.3.4.17	
Downlink counter synchronisation info	OP			
>RB with PDCP information list	OP	1 to <maxRBallRABs>		This IE is needed for each RB having PDCP in the case of lossless SRNS relocation
>>RB with PDCP information	MP		RB with PDCP information 10.3.4.22	
TrCH Information Elements				
Uplink transport channels				
UL Transport channel information common for all transport channels	OP		UL Transport channel information common for all transport channels 10.3.5.24	
Deleted TrCH information list	OP	1 to <maxTrCH>		
>Deleted UL TrCH information	MP		Deleted UL TrCH information 10.3.5.5	
Added or Reconfigured TrCH information list	OP	1 to <maxTrCH>		
>Added or Reconfigured UL TrCH information	MP		Added or Reconfigured UL TrCH information 10.3.5.2	
CHOICE *mode*	MP			
>FDD				
>>CPCH set ID	OP		CPCH set ID 10.3.5.3	
>>Added or Reconfigured TrCH information for DRAC list	OP	1 to <maxTrCH>		
>>>DRAC static information	MP		DRAC static information 10.3.5.7	
>TDD				(no data)
Downlink transport channels				
DL Transport channel information common for all transport channels	OP		DL Transport channel information common for all transport channels 10.3.5.6	
Deleted TrCH information list	OP	1 to <maxTrCH>		
>Deleted DL TrCH information	MP		Deleted DL TrCH information 10.3.5.4	
Added or Reconfigured TrCH	OP	1 to		

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

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

11.2 PDU definitions

…

```
-- ************************************************
--
-- CELL UPDATE CONFIRM
--
-- ************************************************

CellUpdateConfirm ::= CHOICE {
    r3                              SEQUENCE {
        cellUpdateConfirm-r3            CellUpdateConfirm-r3-IEs,
        nonCriticalExtensions           SEQUENCE {} OPTIONAL
    },
    later-than-r3                   SEQUENCE {
        rrc-TransactionIdentifier       RRC-TransactionIdentifier,
        criticalExtensions              SEQUENCE {}
    }
}

CellUpdateConfirm-r3-IEs ::= SEQUENCE {
    -- User equipment IEs
        rrc-TransactionIdentifier       RRC-TransactionIdentifier,
        integrityProtectionModeInfo     IntegrityProtectionModeInfo         OPTIONAL,
        cipheringModeInfo               CipheringModeInfo                   OPTIONAL,
        activationTime                  ActivationTime                      OPTIONAL,
        new-U-RNTI                      U-RNTI                              OPTIONAL,
        new-C-RNTI                      C-RNTI                              OPTIONAL,
        rrc-StateIndicator              RRC-StateIndicator,
        utran-DRX-CycleLengthCoeff      UTRAN-DRX-CycleLengthCoefficient    OPTIONAL,
        rlc-Re-establishIndicatorRb2-3or4   BOOLEAN,
        rlc-Re-establishIndicatorRb5orAbove BOOLEAN,
 -- CN information elements
        cn-InformationInfo              CN-InformationInfo                  OPTIONAL,
    -- UTRAN mobility IEs
        ura-Identity                    URA-Identity                        OPTIONAL,
    -- Radio bearer IEs
        rb-InformationReleaseList       RB-InformationReleaseList           OPTIONAL,
        rb-InformationReconfigList      RB-InformationReconfigList          OPTIONAL,
        rb-InformationAffectedList      RB-InformationAffectedList          OPTIONAL,
        dl-CounterSynchronisationInfo   DL-CounterSynchronisationInfo       OPTIONAL,
    -- Transport channel IEs
        ul-CommonTransChInfo            UL-CommonTransChInfo                OPTIONAL,
        ul-deletedTransChInfoList       UL-DeletedTransChInfoList           OPTIONAL,
        ul-AddReconfTransChInfoList     UL-AddReconfTransChInfoList         OPTIONAL,
        modeSpecificTransChInfo         CHOICE {
            fdd                             SEQUENCE {
                cpch-SetID                      CPCH-SetID                  OPTIONAL,
                addReconfTransChDRAC-Info       DRAC-StaticInformationList  OPTIONAL
            },
            tdd                             NULL
        },
        dl-CommonTransChInfo            DL-CommonTransChInfo                OPTIONAL,
        dl-DeletedTransChInfoList       DL-DeletedTransChInfoList           OPTIONAL,
        dl-AddReconfTransChInfoList     DL-AddReconfTransChInfoList         OPTIONAL,
    -- Physical channel IEs
        frequencyInfo                   FrequencyInfo                       OPTIONAL,
        maxAllowedUL-TX-Power           MaxAllowedUL-TX-Power               OPTIONAL,
        ul-ChannelRequirement           UL-ChannelRequirement               OPTIONAL,
        modeSpecificPhysChInfo          CHOICE {
            fdd                             SEQUENCE {
                dl-PDSCH-Information            DL-PDSCH-Information        OPTIONAL
            },
            tdd                             NULL
        },
        dl-CommonInformation            DL-CommonInformation                OPTIONAL,
        dl-InformationPerRL-List        DL-InformationPerRL-List            OPTIONAL
}

-- ************************************************
--
-- CELL UPDATE CONFIRM for CCCH
--
-- ************************************************

CellUpdateConfirm-CCCH ::= CHOICE {
```

```
    r3                              SEQUENCE {
        -- User equipment IEs
            u-RNTI                      U-RNTI,
        -- The rest of the message is identical to the one sent on DCCH.

            cellUpdateConfirm-r3                CellUpdateConfirm-r3-IEs,
        nonCriticalExtensions           SEQUENCE {} OPTIONAL
    },
    later-than-r3                   SEQUENCE {
        rrc-TransactionIdentifier       RRC-TransactionIdentifier,
        criticalExtensions              SEQUENCE {}
    }
}
```

11.5 RRC information between network nodes

```
IMPORTS
-- Radio Bearer IEs :
    PredefinedConfigStatusList,
    PredefinedConfigValueTag,
    RAB-InformationSetupList,
    RB-Identity,
    SRB-InformationSetupList,

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

SRNC-RelocationInfo ::= CHOICE {
    r3                              SEQUENCE {
        sRNC-RelocationInfo-r3          SRNC-RelocationInfo-r3-IEs,
        v380NonCriticalExtensions           SEQUENCE {
            sRNC-RelocationInfo-v380ext SRNC-RelocationInfo-v380ext-IEs,
            -- Reserved for future non critical extension
            v390NonCriticalExtensions           SEQUENCE {
                sRNC-RelocationInfo-v390ext         SRNC-RelocationInfo-v390ext-IEs,
                v3a0NonCriticalExtensions           SEQUENCE {
                    sRNC-RelocationInfo-v3a0ext         SRNC-RelocationInfo-v3a0ext-IEs,
                    -- Reserved for future non critical extension
                    nonCriticalExtensions           SEQUENCE {} OPTIONAL
                }       OPTIONAL
            }       OPTIONAL
        }       OPTIONAL
    },
    criticalExtensions              SEQUENCE {}
}

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

```
        cn-DomainInformationList        CN-DomainInformationList            OPTIONAL,
    -- Measurement IEs
        ongoingMeasRepList              OngoingMeasRepList                  OPTIONAL,
    -- Radio bearer IEs
        predefinedConfigStatusList      PredefinedConfigStatusList,
        srb-InformationList             SRB-InformationSetupList,
        rab-InformationList             RAB-InformationSetupList            OPTIONAL,
    -- Transport channel IEs
        ul-CommonTransChInfo            UL-CommonTransChInfo                OPTIONAL,
        ul-TransChInfoList              UL-AddReconfTransChInfoList         OPTIONAL,
        modeSpecificInfo                CHOICE {
            fdd                             SEQUENCE {
                cpch-SetID                      CPCH-SetID                  OPTIONAL,
                transChDRAC-Info                DRAC-StaticInformationList  OPTIONAL
            },
            tdd                             NULL
        },
        dl-CommonTransChInfo            DL-CommonTransChInfo                OPTIONAL,
        dl-TransChInfoList              DL-AddReconfTransChInfoList         OPTIONAL,
    -- Measurement report
        measurementReport               MeasurementReport                   OPTIONAL
}

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

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

SRNC-RelocationInfo-v3a0ext-IEs ::= SEQUENCE{
        CipheringInfoForSRB1PerRB-List-v3a0ext      CipheringInfoPerRB-List-v3a0ext
}

CipheringInfoPerRB-List-v3a0ext ::= SEQUENCE{
        dl-UM-SN                        BIT STRING(7)
}
```

14.12.4.2 SRNS RELOCATION INFO

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

Direction: source RAT→target RNC

Information Element/Group Name	Need	Multi	Type and reference	Semantics description
Non RRC Ies				
>State of RRC	MP		RRC state indicator, 10.3.3.10	
>State of RRC procedure	MP		Enumerated (await no RRC message, Complete, await RB Setup Complete, await RB Reconfiguration Complete, await RB Release Complete, await Transport	

Information Element/Group Name	Need	Multi	Type and reference	Semantics description
			CH Reconfiguration Complete, await Physical CH Reconfiguration Complete, await Active Set Update Complete, await Handover Complete, send Cell Update Confirm, send URA Update Confirm, , others)	
Ciphering related information				
>Ciphering status for each CN domain	MP	<1 to maxCNDomains>		
>>CN domain identity	MP		CN domain identity 10.3.1.1	
>>Ciphering status	MP		Enumerated(Not started, Started)	
>Latest configured CN domain	MP		CN domain identity 10.3.1.1	Value contained in the variable of the same name.
>Calculation time for ciphering related information	CV-*Ciphering*			Time when the ciphering information of the message were calculated, relative to a cell of the target RNC
>>Cell Identity	MP		Cell Identity 10.3.2.2	Identity of one of the cells under the target RNC and included in the active set of the current call
>>SFN	MP		Integer(0..4095)	
>COUNT-C list	CV-*Ciphering*	1 to <maxCNdomains>		COUNT-C values for radio bearers using transparent mode RLC
>>CN domain identity	MP		CN domain identity 10.3.1.1	
>>COUNT-C	MP		Bit string(32)	
>Ciphering info per radio bearer	OP	1 to <maxRB>		For signalling radio bearers this IE is mandatory.
>>RB identity	MP		RB identity 10.3.4.16	
>>Downlink HFN	MP		Bit string(20..25)	This IE is either RLC AM HFN (20 bits) or RLC UM HFN (25 bits)
>>Downlink SN	CV-*SRB1*		Bit String(7)	VT(US) of RLC UM
>>Uplink HFN	MP		Bit string(20..25)	This IE is either RLC AM HFN (20 bits) or RLC UM HFN (25 bits)

Information Element/Group Name	Need	Multi	Type and reference	Semantics description
Integrity protection related information				
>Integrity protection status	MP		Enumerated(Not started, Started)	
>Signalling radio bearer specific integrity protection information	CV-*IP*	4 to <maxSRBsetup>		
>>Uplink RRC HFN	MP		Bit string (28)	
>>Downlink RRC HFN	MP		Bit string (28)	
>>Uplink RRC Message sequence number	MP		Integer (0..15)	
>>Downlink RRC Message sequence number	MP		Integer (0..15)	
>Implementation specific parameters	OP		Bit string (1..512)	
RRC IEs				
UE Information elements				
>U-RNTI	MP		U-RNTI 10.3.3.47	
>C-RNTI	OP		C-RNTI 10.3.3.8	
>UE radio access Capability	MP		UE radio access capability 10.3.3.42	
>UE radio access capability extension	OP		UE radio access capability extension 10.3.3.42a	
>Last known UE position	OP			
>>SFN	MP		Integer (0..4095)	Time when position was estimated
>>Cell ID	MP		Cell identity; 10.3.2.2	Indicates the cell, the SFN is valid for.
>>CHOICE *Position estimate*	MP			
>>>Ellipsoid Point			Ellipsoid Point; 10.3.8.4a	
>>>Ellipsoid point with uncertainty circle			Ellipsoid point with uncertainty circle 10.3.8.4d	
>>>Ellipsoid point with uncertainty ellipse			Ellipsoid point with uncertainty ellipse 10.3.8.4e	
>>>Ellipsoid point with altitude			Ellipsoid point with altitude 10.3.8.4b	
>>>Ellipsoid point with altitude and uncertainty ellipsoid			Ellipsoid point with altitude and uncertainty ellipsoid 10.3.8.4c	
Other Information elements				
>UE system specific capability	OP	1 to <maxSyste		

Information Element/Group Name	Need	Multi	Type and reference	Semantics description
		mCapability>		
>>Inter-RAT UE radio access capability	MP		Inter-RAT UE radio access capability 10.3.8.7	
UTRAN Mobility Information elements				
>URA Identifier	OP		URA identity 10.3.2.6	
CN Information Elements				
>CN common GSM-MAP NAS system information	MP		NAS system information (GSM-MAP) 10.3.1.9	
>CN domain related information	OP	1 to <MaxCNdomains>		CN related information to be provided for each CN domain
>>CN domain identity	MP			
>>CN domain specific GSM-MAP NAS system info	MP		NAS system information (GSM-MAP) 10.3.1.9	
>>CN domain specific DRX cycle length coefficient	MP		CN domain specific DRX cycle length coefficient, 10.3.3.6	
Measurement Related Information elements				
>For each ongoing measurement reporting	OP	1 to <MaxNoOfMeas>		
>>Measurement Identity	MP		Measurement identity 10.3.7.48	
>>Measurement Command	MP		Measurement command 10.3.7.46	
>>Measurement Type	CV-*Setup*		Measurement type 10.3.7.50	
>>Measurement Reporting Mode	OP		Measurement reporting mode 10.3.7.49	
>>Additional Measurements list	OP		Additional measurements list 10.3.7.1	
>>CHOICE *Measurement*	OP			
>>>Intra-frequency				
>>>>Intra-frequency cell info	OP		Intra-frequency cell info list 10.3.7.33	
>>>>Intra-frequency measurement quantity	OP		Intra-frequency measurement quantity 10.3.7.38	
>>>>Intra-frequency reporting quantity	OP		Intra-frequency reporting	

Information Element/Group Name	Need	Multi	Type and reference	Semantics description
			quantity 10.3.7.41	
>>>>Reporting cell status	OP		Reporting cell status 10.3.7.61	
>>>>Measurement validity	OP		Measurement validity 10.3.7.51	
>>>>CHOICE *report criteria*	OP			
>>>>>Intra-frequency measurement reporting criteria			Intra-frequency measurement reporting criteria 10.3.7.39	
>>>>>Periodical reporting			Periodical reporting criteria 10.3.7.53	
>>>>>No reporting			NULL	
>>>Inter-frequency				
>>>>Inter-frequency cell info	OP		Inter-frequency cell info list 10.3.7.13	
>>>>Inter-frequency measurement quantity	OP		Inter-frequency measurement quantity 10.3.7.18	
>>>>Inter-frequency reporting quantity	OP		Inter-frequency reporting quantity 10.3.7.21	
>>>>Reporting cell status	OP		Reporting cell status 10.3.7.61	
>>>>Measurement validity	OP		Measurement validity 10.3.7.51	
>>>>CHOICE *report criteria*	OP			
>>>>>Inter-frequency measurement reporting criteria			Inter-frequency measurement reporting criteria 10.3.7.19	
>>>>>Periodical reporting			Periodical reporting criteria 10.3.7.53	
>>>>>No reporting			NULL	
>>>Inter-RAT				
>>>>Inter-RAT cell info	OP		Inter-RAT cell info list 10.3.7.23	
>>>>Inter-RAT measurement quantity	OP		Inter-RAT measurement quantity 10.3.7.29	
>>>>Inter-RAT reporting quantity	OP		Inter-RAT reporting quantity 10.3.7.32	

Information Element/Group Name	Need	Multi	Type and reference	Semantics description
>>>>Reporting cell status	OP		Reporting cell status 10.3.7.61	
>>>>Measurement validity	OP		Measurement validity 10.3.7.51	
>>>>CHOICE *report criteria*	OP			
>>>>>Inter-RAT measurement reporting criteria			Inter-RAT measurement reporting criteria 10.3.7.30	
>>>>>Periodical reporting			Periodical reporting criteria 10.3.7.53	
>>>>>No reporting			NULL	
>>>Traffic Volume				
>>>>Traffic volume measurement Object	OP		Traffic volume measurement object 10.3.7.70	
>>>>Traffic volume measurement quantity	OP		Traffic volume measurement quantity 10.3.7.71	
>>>>Traffic volume reporting quantity	OP		Traffic volume reporting quantity 10.3.7.74	
>>>>CHOICE *report criteria*	OP			
>>>>>Traffic volume measurement reporting criteria			Traffic volume measurement reporting criteria 10.3.7.72	
>>>>>Periodical reporting			Periodical reporting criteria 10.3.7.53	
>>>>>No reporting			NULL	
>>>Quality				
>>>>Quality measurement Object	OP		Quality measurement object	
>>>>CHOICE *report criteria*	OP			
>>>>>Quality measurement reporting criteria			Quality measurement reporting criteria 10.3.7.58	
>>>>>Periodical reporting			Periodical reporting criteria 10.3.7.53	
>>>>>No reporting			NULL	
>>>UE internal				
>>>>UE internal measurement quantity	OP		UE internal measurement quantity 10.3.7.79	

Information Element/Group Name	Need	Multi	Type and reference	Semantics description
>>>>UE internal reporting quantity	OP		UE internal reporting quantity 10.3.7.82	
>>>>CHOICE *report criteria*	OP			
>>>>>UE internal measurement reporting criteria			UE internal measurement reporting criteria 10.3.7.80	
>>>>>Periodical reporting			Periodical reporting criteria 10.3.7.53	
>>>>>No reporting			NULL	
>>>UE positioning				
>>>>LCS reporting quantity	OP		LCS reporting quantity 10.3.7.111	
>>>>CHOICE *report criteria*	OP			
>>>>>LCS reporting criteria			LCS reporting criteria 10.3.7.110	
>>>>>Periodical reporting			Periodical reporting criteria 10.3.7.53	
>>>>>No reporting				
Radio Bearer Information Elements				
>Pre-defined configuration status information	OP		Pre-defined configuration status information 14.13.2.3	
>Signalling RB information list	MP	1 to <maxSRBsetup>		For each signalling radio bearer
>>Signalling RB information	MP		Signalling RB information to setup 10.3.4.24	
>RAB information list	OP	1 to <maxRABsetup>		Information for each RAB
>>RAB information	MP		RAB information to setup 10.3.4.10	
Transport Channel Information Elements				
Uplink transport channels				
>UL Transport channel information common for all transport channels	OP		UL Transport channel information common for all transport channels 10.3.5.24	
>UL transport channel information list	OP	1 to <MaxTrCH>		

Information Element/Group Name	Need	Multi	Type and reference	Semantics description
>>UL transport channel information	MP		Added or reconfigured UL TrCH information 10.3.5.2	
>CHOICE *mode*	OP			
>>FDD				
>>>CPCH set ID	OP		CPCH set ID 10.3.5.5	
>>>Transport channel information for DRAC list	OP	1 to <MaxTrCH>		
>>>>DRAC static information	MP		DRAC static information 10.3.5.7	
>>TDD				(no data)
Downlink transport channels				
>DL Transport channel information common for all transport channels	OP		DL Transport channel information common for all transport channels 10.3.5.6	
>DL transport channel information list	OP	1 to <MaxTrCH>		
>>DL transport channel information	MP		Added or reconfigured DL TrCH information 10.3.5.1	
>Measurement report	OP		MEASUREMENT REPORT 10.2.17	
Other Information elements				
Failure cause	OP		Failure cause 10.3.3.13	Diagnostics information related to an earlier SRNC Relocation request (see NOTE 2 in 14.12.0a)
Protocol error information	CV-*ProtErr*		Protocol error information 10.3.8.12	

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

Condition	Explanation
Setup	The IE is mandatory present when the IE Measurement command has the value "Setup", otherwise the IE is not needed.
Ciphering	The IE is mandatory present when the IE Ciphering Status has the value "started" and the ciphering counters need not be reinitialised, otherwise the IE is not needed.
IP	The IE is mandatory present when the IE Integrity protection status has the value "started" and the integrity protection counters need not be reinitialised, otherwise the IE is not needed.
ProtErr	This IE is mandatory present if the IE "Protocol error indicator" is included and has the value "TRUE". Otherwise it is not needed.
SRB1	The IE is mandatory present for the SRB #1. Otherwise it is not needed.

3GPP TSG-RAN2 Meeting #27
Orlando, FL, USA, 18-23 Feb 2002

R2-020570

CR-Form-v

CHANGE REQUEST

⌘ **25.331** **CR** **1347** ⌘ **rev** **-** ⌘ Current version: **4.3.0** ⌘

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

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

Title:	⌘	Correction to UE Id for DSCH
Source:	⌘	TSG-RAN WG2
Work item code:	⌘	TEI
Date:	⌘	21 Feb 2002
Category:	⌘	**A**
Release:	⌘	REL4

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)

Reason for change:	⌘	According to the MAC specification (TS 25.321), the DSCH is a common transport channel and therefore it is specified that the U-RNTI is used only in DL for DCCH mapped on common transport channels. In the case of DTCH mapped on common transport channels including DSCH it is assumed that C-RNTI shall be used. However in RRC specification, the C-RNTI is not available in CELL_DCH. With the current specifications DSCH is not working.
Summary of change:	⌘	It is proposed to create a new 16 bits UE Id called DSCH-RNTI to be used for DSCH when UEs are in CELL_DCH. The handling of C-RNTI for RACH, FACH, CPCH for UEs in CELL_FACH will be left unchanged. This new IE is introduced in the DL RB control messages using the non-critical extension mechanism. The DSCH-RNTI is also introduced in TDD capacity request and shared channel allocation messages.
Consequences if not approved:	⌘	DSCH does not work properly

Clauses affected:	⌘	8.2.2.3, 8.2.7.3, 8.6.3.9a (new), 8.6.6.9, 8.6.6.10, 10.2.8, 10.2.22, 10.2.25, 10.2.26, 10.2.27, 10.2.30, 10.2.33, 10.2.50, 10.3.3.8a (new), 11.2, 11.3, 13.4.3a (new)
Other specs affected:	⌘	[X] Other core specifications ⌘ 25.321, 25.401, 25.423 25.331 v3.9.0, CR 1346r1 [ ] Test specifications [ ] O&M Specifications
Other comments:	⌘	

How to create CRs using this form:

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

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

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

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

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

The UE shall be able to receive any of the following messages:

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

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

If the UE receives:

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

it shall:

- set the variable ORDERED_RECONFIGURATION to TRUE;
- perform the physical layer synchronisation procedure as specified in [29];
- act upon all received information elements as specified in subclause 8.6, unless specified in the following and perform the actions below.

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

- in FDD, if the IE "PDSCH code mapping" is included but the IE "PDSCH with SHO DCH Info" is not included and if the DCH has only one link in its active set:
  - act upon the IE "PDSCH code mapping" as specified in subclause 8.6; and
  - infer that the PDSCH will be transmitted from the cell from which the downlink DPCH is transmitted.
- enter a state according to subclause 8.6.3.3.

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

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

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

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

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

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

- remove any DSCH-RNTI from MAC;
- clear the variable DSCH_RNTI.

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

- if the IE "Uplink DPCH Info" is absent, not change its current UL Physical channel configuration;
- if the IE "Downlink information for each radio link" is absent, not change its current DL Physical channel configuration.

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

- if the IE "Frequency info" is included in the received reconfiguration message:
  - select a suitable UTRA cell according to [4] on that frequency.
- if the IE "Frequency info" is not included in the received reconfiguration message:
  - select a suitable UTRA cell according to [4].
- if the received reconfiguration message included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selects another cell than indicated by this IE or the received reconfiguration message did not include the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD):
  - initiate a cell update procedure according to subclause 8.3.1 using the cause "Cell reselection";
  - when the cell update procedure completed successfully:
    - if the UE is in CELL_PCH or URA_PCH state:
      - initiate a cell update procedure according to subclause 8.3.1 using the cause "Uplink data transmission";
      - proceed as below.
- start timer T305 using its initial value if timer T305 is not running and if periodical update has been configured by T305 in the IE "UE Timers and constants in connected mode" set to any other value than "infinity" in system information block type 1;
- select PRACH according to subclause 8.5.17;
- select Secondary CCPCH according to subclause 8.5.19;
- use the transport format set given in system information;
- if the IE "UTRAN DRX cycle length coefficient" is included in the same message:
  - ignore that IE and stop using DRX.
- if the contents of the variable C_RNTI is empty:
  - perform a cell update procedure according to subclause 8.3.1 using the cause "Cell reselection";
  - when the cell update procedure completed successfully:
    - if the UE is in CELL_PCH or URA_PCH state:
      - initiate a cell update procedure according to subclause 8.3.1 using the cause "Uplink data transmission";
      - proceed as below.

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

- if the IE "Frequency info" is included in the received reconfiguration message:
  - select a suitable UTRA cell according to [4] on that frequency;
  - if the received reconfiguration message included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selected another cell than indicated by this IE or the received reconfiguration message did not include the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD):
    - initiate a cell update procedure according to subclause 8.3.1 using the cause "cell reselection";
    - when the cell update procedure completed successfully:
      - proceed as below.

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

- if the received reconfiguration message included the IE "Downlink counter synchronisation info":
  - re-establish RB2;
  - set the new uplink and downlink HFN of RB2 to MAX(uplink HFN of RB2 | downlink HFN of RB2) + 1;
  - increment by one the downlink and uplink HFN values for RB2;
  - calculate the START value according to subclause 8.5.9;
  - include the calculated START values for each CN domain in the IE "START list" in the IE "Uplink counter synchronisation info".
- if the received reconfiguration message did not include the IE "Downlink counter synchronisation info":
  - if the variable START_VALUE_TO_TRANSMIT is set:
    - include and set the IE "START" to the value of that variable.
  - if the variable START_VALUE_TO_TRANSMIT is not set and the IE "New U-RNTI" is included:
    - calculate the START value according to subclause 8.5.9;
    - include the calculated START values for each CN domain in the IE "START list" in the IE "Uplink counter synchronisation info".
- if the received reconfiguration message contained the IE "Ciphering mode info":
  - include and set the IE "Radio bearer uplink ciphering activation time info" to the value of the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO.
- if the received reconfiguration message contained the IE "Integrity protection mode info" with the IE "Integrity protection mode command" set to "Modify":
  - include and set the IE "Uplink integrity protection activation info" to the value of the variable INTEGRITY_PROTECTION_ACTIVATION_INFO.
- if the received reconfiguration message did not contain the IE "Ciphering activation time for DPCH" in IE "Ciphering mode info":
  - if prior to this procedure there exist no transparent mode RLC radio bearers:
    - if, at the conclusion of this procedure, the UE will be in CELL_DCH state; and
    - if, at the conclusion of this procedure, at least one transparent mode RLC radio bearer exists:
      - include the IE "COUNT-C activation time" and specify a CFN value for this IE.
  - if prior to this procedure there exists at least one transparent mode RLC radio bearer:

        - if, at the conclusion of this procedure, no transparent mode RLC radio bearers exist:

            - include the IE "COUNT-C activation time" and specify a CFN value for this IE.

- set the IE "RRC transaction identifier" to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and
- clear that entry;
- if the variable PDCP_SN_INFO is not empty:
    - include the IE "RB with PDCP information list" and set it to the value of the variable PDCP_SN_INFO.
- in TDD, if the procedure is used to perform a handover to a cell where timing advance is enabled, and the UE can calculate the timing advance value in the new cell (i.e. in a synchronous TDD network):
    - set the IE "Uplink Timing Advance" according to subclause 8.6.6.26.
- if the IE "Integrity protection mode info" was present in the received reconfiguration message:
    - start applying the new integrity protection configuration in the uplink for signalling radio bearer RB2 from and including the transmitted response message.

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

- if the IE "Frequency info" is included in the received reconfiguration message:
    - select a suitable UTRA cell according to [4] on that frequency.
- if the IE "Frequency info" is not included in the received reconfiguration message:
    - select a suitable UTRA cell according to [4].
- prohibit periodical status transmission in RLC;
- remove any C-RNTI from MAC;
- clear the variable C_RNTI;
- start timer T305 using its initial value if timer T305 is not running and if periodical update has been configured by T305 in the IE "UE Timers and constants in connected mode" set to any other value than "infinity" in system information block type 1;
- select Secondary CCPCH according to subclause 8.5.19;
- if the IE "UTRAN DRX cycle length coefficient" is included in the same message:
    - use the value in the IE "UTRAN DRX Cycle length coefficient" for calculating Paging occasion and PICH Monitoring Occasion as specified in subclause 8.6.3.2.
- if the IE "UTRAN DRX cycle length coefficient" is not included in the same message:
    - set the variable INVALID_CONFIGURATION to TRUE.
- if the UE enters CELL_PCH state from CELL_DCH state, and the received reconfiguration message included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selected another cell than indicated by this IE or the received reconfiguration message did not include the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD):
    - initiate a cell update procedure according to subclause 8.3.1 using the cause "cell reselection";
    - when the cell update procedure completed successfully:
        - the procedure ends.

- if the UE enters CELL_PCH state from CELL_FACH state, and the received reconfiguration message included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selected another cell than indicated by this IE:
  - initiate a cell update procedure according to subclause 8.3.1 using the cause "cell reselection";
  - when the cell update procedure is successfully completed:
    - the procedure ends.
- if the UE enters URA_PCH state, and after cell selection the criteria for URA update caused by "URA reselection" according to subclause 8.3.1 is fulfilled:
  - initiate a URA update procedure according to subclause 8.3.1 using the cause "URA reselection";
  - when the URA update procedure is successfully completed:
    - the procedure ends.

8.2.7.3 Reception of a PHYSICAL SHARED CHANNEL ALLOCATION message by the UE

Upon reception of a "PHYSICAL SHARED CHANNEL ALLOCATION" message, if the message is received on the downlink SHCCH the UE shall:

- check the DSCH-RNTI ~~C-RNTI~~ to see if the UE is addressed by the message;
- if the UE is addressed by the message, or if the message is received on the downlink DCCH:
  - perform the following actions.
- otherwise:
  - ignore the message.
- act upon all received information elements as specified in subclause 8.6, unless specified otherwise in the following:
- if the IE "ISCP Timeslot list" is included:
  - store the timeslot numbers given there for future Timeslot ISCP measurements and reports.
- if the IE "PDSCH capacity allocation info" is included:
  - configure the physical resources used for the downlink CCTrCH given by the IE "TFCS ID" according to the following:
    - if the CHOICE "Configuration" has the value "Old configuration":
      - if the UE has stored a PDSCH configuration with the identity given by the IE "PDSCH Identity":
        - configure the physical resources according to that configuration.
      - otherwise:
        - ignore the IE "PDSCH capacity allocation info".
    - if the CHOICE "Configuration" has the value "New configuration":
      - configure the physical resources according to the information given in IE "PDSCH Info". If IE "Common timeslot info" or IE "PDSCH timeslots and codes" IE are not present in IE "PDSCH Info":
        - reuse the configuration specified in the previous "PHYSICAL SHARED CHANNEL ALLOCATION" message for this CCTrCH.
      - if the IE "PDSCH Identity" is included:

- store the new configuration using that identity.

- start using the new configuration at the CFN specified by the IE "Allocation activation time", and use that for the duration given by the IE "Allocation duration";
- if the IE "Confirm request" has the value "Confirm PDSCH" and IE "PDSCH Identity" is included in IE "PDSCH capacity allocation info":
  - initiate the PUSCH CAPACITY REQUEST procedure as described in subclause 8.2.8.
- if the IE "PUSCH capacity allocation info" is included:
- stop the timer T310, if running;
- if the CHOICE "PUSCH allocation" has the value "PUSCH allocation pending":
  - start the timer T311.
- if the CHOICE "PUSCH allocation" has the value "PUSCH allocation assignment":
  - stop the timer T311, if running;
  - configure the physical resources used for the uplink CCTrCH given by the IE "TFCS ID" according to the following:
    - if the CHOICE "Configuration" has the value "Old configuration":
      - if the UE has stored a PUSCH configuration with the identity given by the IE "PUSCH Identity":
        - configure the physical resources according to that configuration.
      - otherwise:
        - ignore the IE "PUSCH capacity allocation info".
    - if the CHOICE "Configuration" has the value "New configuration", the UE shall:
      - configure the physical resources according to the information given in IE "PUSCH Info". If IE "Common timeslot info" or IE "PUSCH timeslots and codes" is not present in IE "PUSCH Info":
        - reuse the configuration specified in the previous "PHYSICAL SHARED CHANNEL ALLOCATION" message for this CCTrCH.
      - if the IE "PUSCH Identity" is included:
        - store the new configuration using that identity.
    - start using the new configuration at the CFN specified by the IE "Allocation activation time", and use that for the duration given by the IE "Allocation duration";
    - if the IE "Traffic volume report request " is included:
      - initiate the PUSCH CAPACITY REQUEST procedure as described in subclause 8.2.8 at the time indicated by the IE "Traffic volume report request".
    - if the IE "Confirm request" has the value "Confirm PUSCH" and IE "PUSCH Identity" is included in IE "PUSCH capacity allocation info":
      - initiate the PUSCH CAPACITY REQUEST procedure as described in subclause 8.2.8.
- determine the TFCS subset and hence the TFCI values which are possible given the PUSCH allocation for that CCTrCH;
- configure the MAC-c/sh in the UE with this TFCS restriction if necessary;
- transmit USCH Transport Block Sets as required, within the TFCS limits given by the PUSCH allocation.

NOTE: If the UE has just entered a new cell and System Information Block Type 6has not yet been scheduled, PUSCH/PDSCH information should be specified in the allocation message.

The UE shall:

- clear the entry for the PHYSICAL SHARED CHANNEL ALLOCATION message in the table "Accepted transactions" in the variable TRANSACTIONS;
- and the procedure ends.

8.6.3.9 New C-RNTI

If the IE "New C-RNTI" is included, the UE shall:

- store the value in the variable C_RNTI, replacing any old stored value;
- use that C-RNTI when using common transport channels of type RACH, FACH and CPCH in the current cell.

8.6.3.9a New DSCH-RNTI

If the IE "New DSCH-RNTI" is included, the UE shall:

- In FDD, if the UE will be in CELL_DCH at the end of the procedure where the received message included this IE, and
- if the UE supports DSCH as indicated in the IE "Physical Channel Capability" included in the IE "UE Radio Access Cabability":
  - store the value in the variable DSCH_RNTI, replacing any old stored value;
  - use that DSCH-RNTI when using common transport channels of type DSCH in the current cell.
- In TDD, if the UE will be in CELL_DCH or CELL_FACH at the end of the procedure where the received message included this IE, and
- if the UE supports DSCH or USCH as indicated in the IE "Physical Channel Capability" included in the IE "UE Radio Access Cabability":
  - store the value in the variable DSCH_RNTI, replacing any old stored value;
  - use that DSCH-RNTI when using SHCCH signalling in the current cell.

8.6.6.9 PDSCH with SHO DCH Info (FDD only)

If the IE "PDSCH with SHO DCH Info" is included, the UE shall:

- if the variable DSCH_RNTI is empty:
  - set the variable INVALID_CONFIGURATION to TRUE;
- configure itself to receive the PDSCH from the specified radio link within the active set identified by the IE "DSCH radio link identifier";
- if the TFCI has a 'hard' split:
  - if the IE "TFCI(field2) combining set" is included:
    - configure the Layer 1 to combine soft only the DPCCH TFCI(field 2) of the radio links within the active set which are identified by the IE "Radio link identifier" in the IE "TFCI(field2) Combining set".
  - if the IE "TFCI(field2) combining set" is not included:
    - configure the L1 to combine soft the DPCCH TFCI(field 2) of all radio links within the active set.

8.6.6.10 PDSCH code mapping (FDD only)

If the IE "PDSCH code mapping" is included, the UE shall:

- if the variable DSCH_RNTI is empty:
  - set the variable INVALID_CONFIGURATION to TRUE;
- use the scrambling code defined by the IE "DL Scrambling Code" to receive the PDSCH;
- if the IE choice "signalling method" is set to 'code range':
  - map the TFCI(field2) values to PDSCH codes in the following way:
  - for the first group of the IE "PDSCH code mapping":
    - if the value of the IE "multi-code info" equals 1:
      - map the TFCI(field 2) = 0 to the PDSCH code specified by the IE "Spreading factor" and the code number given by the IE "Code number (for PDSCH code) start";
      - map TFCI(field 2) = 1 to the PDSCH code specified by the IE "Spreading factor" and the code number given by the IE "Code number (for PDSCH code) start"+1;
      - continue this process with unit increments in the value of TFCI(field 2) mapped to unit increments in code number until the code number equals the value of the IE "Code number (for PDSCH code) stop".
    - if the value of the IE "multi-code info" is greater than 1:
      - if the value of the difference between the IE "Code number (for PDSCH code) start" and the IE "Code number (for PDSCH code) stop" + 1 is not a multiple of the value of the IE "multi-code info":
        - set the variable INVALID_CONFIGURATION to TRUE.
      - map TFCI (field 2)=0 to a set of PDSCH contiguous codes. This code set is specified by the IE "Spreading factor" and code numbers between 'code number start' denoted by the IE "Code number (for PDSCH code) start" and 'code number stop' given by IE "Code number (for PDSCH code) start" - 1 + the value of the IE "multi-code info";
      - continue this process with unit increments in the value of TFCI(field 2) mapped to a set of contiguous codes. This code set is specified by the IE "Spreading factor" and code numbers between 'code number start' = 'code number stop' +1 of the previous TFCI(field2) and 'code number stop'='code number start' - 1 + the value of the IE "multi-code info";
      - stop this process when the 'code number stop' associated to the last TFCI(field2) equals the value of the IE "Code number (for PDSCH code) stop".
  - for each of the next groups included in the IE "PDSCH code mapping":
    - continue the process in the same way as for the first group with the TFCI(field 2) value used by the UE to construct its mapping table starting at the largest TFCI(field 2) value reached in the previous group plus one.
  - if the value of the IE "Code number (for PDSCH code) start" equals the value of the IE "Code number (for PDSCH code) stop" (as may occur when mapping the PDSCH root code to a TFCI (field 2) value):
    - consider this as defining the mapping between the channelisation code and a single TFCI (i.e., TFCI(field 2) shall not be incremented twice).
- if the IE choice "signalling method" is set to 'TFCI range':
  - map the TFCI(field2) values to PDSCH codes in the following way:
  - for the first group of the IE "DSCH mapping":

- map each of the TFCI(field 2) between 0 and the value of the IE "Max TFCI(field2)" to the PDSCH code specified by the IE "Spreading factor (for PDSCH code)" and the code number given by the IE "Code number (for PDSCH code)".

- for each of the next groups included in the IE "DSCH mapping":

  - map each of the TFCI(field 2) between the IE "Max TFCI(field2) value" specified in the last group plus one and the specified IE "Max TFCI(field2)" in the current group to the PDSCH code specified by the IE "Spreading factor (for PDSCH code)" and the code number given by the IE "Code number (for PDSCH code)".

- if the value of the IE "multi-code info" is greater than 1:

  - map each value of TFCI (field 2) to a set of PDSCH contiguous codes starting at the channelisation code denoted by the 'code number' parameter and including all codes with code numbers up to and including 'code number' - 1 + the value of the IE "multi-code info".

- if the IE choice "signalling method" is set to 'Explicit'

  - map the TFCI(field2) values to PDSCH codes in the following way:

  - for the first instance on the IE "PDSCH code info":

    - apply the PDSCH code specified by the IE "Spreading factor (for PDSCH code)" and the code number given by the IE "Code number (for PDSCH code)" for TFCI(field2)=0.

  - for the second instance of the IE "PDSCH code info":

    - apply the PDSCH code specified by the IE "Spreading factor (for PDSCH code)" and the code number given by the IE "Code number (for PDSCH code)" for TFCI(field2)=1.

  - continue in a similar way for each next instance of the IE "PDSCH code info";

  - if the value of the IE "multi-code info" is greater than 1, then

    - map each value of TFCI (field 2) to a set of PDSCH contiguous codes starting at the channelisation code denoted by the 'code number' parameter and including all codes with code numbers up to and including 'code number' - 1 + the value of the IE "multi-code info".

- if the IE choice "signalling method" is set to 'Replace':

  - map the TFCI(field2) values to PDSCH codes in the following way:

  - for each instance of the IE "Replaced PDSCH code":

    - replace the corresponding PDSCH code for the TFCI(field2) identified by the IE "TFCI(field2)" with the new code specified by the IE "Spreading factor (for PDSCH code)" and the code number given by the IE "Code number (for PDSCH code)".

  - if the value of the IE "multi-code info" is greater than 1:

    - map each value of TFCI (field 2) to a set of PDSCH contiguous codes starting at the channelisation code denoted by the 'code number' parameter and including all codes with code numbers up to and including 'code number' - 1 + the value of the IE "multi-code info".

10.2.8 CELL UPDATE CONFIRM

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

RLC-SAP: UM

Logical channel: CCCH or DCCH

Direction: UTRAN→UE

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Message Type	MP		Message Type	
UE Information Elements				
U-RNTI	CV-*CCCH*		U-RNTI 10.3.3.47	
RRC transaction identifier	MP		RRC transaction identifier 10.3.3.36	
Integrity check info	CH		Integrity check info 10.3.3.16	
Integrity protection mode info	OP		Integrity protection mode info 10.3.3.19	
Ciphering mode info	OP		Ciphering mode info 10.3.3.5	
Activation time	MD		Activation time 10.3.3.1	Default value is "now"
New U-RNTI	OP		U-RNTI 10.3.3.47	
New C-RNTI	OP		C-RNTI 10.3.3.8	
New DSCH-RNTI	OP		DSCH-RNTI 10.3.3.8a	
RRC State Indicator	MP		RRC State Indicator 10.3.3.10	
UTRAN DRX cycle length coefficient	OP		UTRAN DRX cycle length coefficient 10.3.3.49	
RLC re-establish indicator (RB2, RB3 and RB4)	MP		RLC re-establish indicator 10.3.3.35	
RLC re-establish indicator (RB5 and upwards)	MP		RLC re-establish indicator 10.3.3.35	
CN Information Elements				
CN Information info	OP		CN Information info 10.3.1.3	
UTRAN Information Elements				
URA identity	OP		URA identity 10.3.2.6	
RB information elements				
RB information to release list	OP	1 to <maxRB>		
>RB information to release	MP		RB information to release 10.3.4.19	
RB information to reconfigure list	OP	1 to <maxRB>		
>RB information to reconfigure	MP		RB information to reconfigure 10.3.4.18	
RB information to be affected list	OP	1 to <maxRB>		

Information Element/Group name	Need	Multi	Type and reference	Semantics description
>RB information to be affected	MP		RB information to be affected 10.3.4.17	
Downlink counter synchronisation info	OP			
>RB with PDCP information list	OP	1 to <maxRBallRABs>		This IE is needed for each RB having PDCP in the case of lossless SRNS relocation
>>RB with PDCP information	MP		RB with PDCP information 10.3.4.22	
TrCH Information Elements				
Uplink transport channels				
UL Transport channel information common for all transport channels	OP		UL Transport channel information common for all transport channels 10.3.5.24	
Deleted TrCH information list	OP	1 to <maxTrCH>		
>Deleted UL TrCH information	MP		Deleted UL TrCH information 10.3.5.5	
Added or Reconfigured TrCH information list	OP	1 to <maxTrCH>		
>Added or Reconfigured UL TrCH information	MP		Added or Reconfigured UL TrCH information 10.3.5.2	
CHOICE *mode*	MP			
>FDD				
>>CPCH set ID	OP		CPCH set ID 10.3.5.3	
>>Added or Reconfigured TrCH information for DRAC list	OP	1 to <maxTrCH>		
>>>DRAC static information	MP		DRAC static information 10.3.5.7	
>TDD				(no data)
Downlink transport channels				
DL Transport channel information common for all transport channels	OP		DL Transport channel information common for all transport channels 10.3.5.6	
Deleted TrCH information list	OP	1 to <maxTrCH>		
>Deleted DL TrCH information	MP		Deleted DL TrCH information 10.3.5.4	
Added or Reconfigured TrCH	OP	1 to		

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

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

10.2.22 PHYSICAL CHANNEL RECONFIGURATION

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

RLC-SAP: AM or UM

Logical channel: DCCH

Direction: UTRAN → UE

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Message Type	MP		Message Type	

Information Element/Group name	Need	Multi	Type and reference	Semantics description
UE Information Elements				
RRC transaction identifier	MP		RRC transaction identifier 10.3.3.36	
Integrity check info	CH		Integrity check info 10.3.3.16	
Integrity protection mode info	OP		Integrity protection mode info 10.3.3.19	
Ciphering mode info	OP		Ciphering mode info 10.3.3.5	
Activation time	MD		Activation time 10.3.3.1	Default value is "now"
New U-RNTI	OP		U-RNTI 10.3.3.47	
New C-RNTI	OP		C-RNTI 10.3.3.8	
New DSCH-RNTI	OP		DSCH-RNTI 10.3.3.8a	
RRC State Indicator	MP		RRC State Indicator 10.3.3.10	
UTRAN DRX cycle length coefficient	OP		UTRAN DRX cycle length coefficient 10.3.3.49	
CN Information Elements				
CN Information info	OP		CN Information info 10.3.1.3	
UTRAN mobility information elements				
URA identity	OP		URA identity 10.3.2.6	
RB information elements				
Downlink counter synchronisation info	OP			
>RB with PDCP information list	OP	1 to <maxRBallRABs>		This IE is needed for each RB having PDCP in the case of lossless SRNS relocation
>>RB with PDCP information	MP		RB with PDCP information 10.3.4.22	
PhyCH information elements				
Frequency info	MD		Frequency info 10.3.6.36	Default value is the existing value of frequency information
Uplink radio resources				
Maximum allowed UL TX power	MD		Maximum allowed UL TX power 10.3.6.39	Default value is the existing value of the maximum allowed UL TX power
CHOICE *channel requirement*	OP			
>Uplink DPCH info			Uplink DPCH info 10.3.6.88	
>CPCH SET Info			CPCH SET Info 10.3.6.13	
>CPCH set ID			CPCH set ID	

Information Element/Group name	Need	Multi	Type and reference	Semantics description
			10.3.5.3	
Downlink radio resources				
CHOICE *mode*	MP			
>FDD				
>>Downlink PDSCH information	OP		Downlink PDSCH information 10.3.6.30	
>TDD				(no data)
Downlink information common for all radio links	OP		Downlink information common for all radio links 10.3.6.24	
Downlink information per radio link list	OP	1 to <maxRL>		Send downlink information for each radio link
>Downlink information for each radio link	MP		Downlink information for each radio link 10.3.6.27	

10.2.25 PHYSICAL SHARED CHANNEL ALLOCATION

NOTE: Only for TDD.

This message is used by UTRAN to assign physical resources to USCH/DSCH transport channels in TDD, for temporary usage by the UE.

RLC-SAP: UM on SHCCH, UM on DCCH

Logical channel: SHCCH or DCCH

Direction: UTRAN → UE

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Message Type	MP		Message type	
~~C~~DSCH-RNTI	OP		~~C~~DSCH-RNTI 10.3.3.8a	
RRC transaction identifier	MP		RRC transaction identifier 10.3.3.36	
Uplink timing advance Control	MD		Uplink Timing Advance Control 10.3.6.96	Default value is the existing value for uplink timing advance
PUSCH capacity allocation info	OP		PUSCH Capacity Allocation info 10.3.6.64	
PDSCH capacity allocation info	OP		PDSCH Capacity Allocation info 10.3.6.42	
Confirm request	MD		Enumerated(No Confirm,	Default value is No Confirm

Information Element/Group name	Need	Multi	Type and reference	Semantics description
			Confirm PDSCH, Confirm PUSCH)	
Traffic volume report request	OP		Integer (0 .. 255)	Indicates the number of frames between start of the allocation period and sending measurement report. The value should be less than the value for Allocation Duration.
ISCP Timeslot list	OP	1 to maxTS		
>Timeslot number	MP		Timeslot number 10.3.6.84	Timeslot numbers, for which the UE shall report the timeslot ISCP in PUSCH CAPACITY REQUEST message.
Request P-CCPCH RSCP	MP		Boolean	TRUE indicates that a Primary CCPCH RSCP measurement shall be reported by the UE in PUSCH CAPACITY REQUEST message.

10.2.26 PUSCH CAPACITY REQUEST

NOTE: Only for TDD.

This message is used by the UE for request of PUSCH resources to the UTRAN.

RLC-SAP: TM

Logical channel: SHCCH

Direction: UE → UTRAN

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Message Type	MP		Message Type	
~~C~~DSCH-RNTI	OP		~~C~~DSCH-RNTI 10.3.3.8a	
RRC transaction identifier	CV-*ProtErr*		RRC transaction identifier 10.3.3.36	
Traffic Volume	OP		Traffic Volume, measured results list 10.3.7.67	
Timeslot list	OP	1 to maxTS		
>Timeslot number	MP		Timeslot number 10.3.6.84	
>Timeslot ISCP	MP		Timeslot ISCP info 10.3.7.65	
Primary CCPCH RSCP	OP		Primary CCPCH RSCP info 10.3.7.54	
CHOICE *Allocation confirmation*	OP			
>PDSCH Confirmation			Integer(1..hi	

Information Element/Group name	Need	Multi	Type and reference	Semantics description
			PDSCHidentities)	
>PUSCH Confirmation			Integer(1..hiPUSCHidentities)	
Protocol error indicator	MD		Protocol error indicator 10.3.3.27	Default value is FALSE
Protocol error information	CV-*ProtErr*		Protocol error information 10.3.8.12	

Condition	Explanation
ProtErr	This IE is mandatory present if the IE "Protocol error indicator" has the value "TRUE". Otherwise it is not needed.

10.2.27 RADIO BEARER RECONFIGURATION

This message is sent from UTRAN to reconfigure parameters related to a change of QoS. This procedure can also change the multiplexing of MAC, reconfigure transport channels and physical channels.

RLC-SAP: AM or UM

Logical channel: DCCH

Direction: UTRAN → UE

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Message Type	MP		Message Type	
UE Information elements				
RRC transaction identifier	MP		RRC transaction identifier 10.3.3.36	
Integrity check info	CH		Integrity check info 10.3.3.16	
Integrity protection mode info	OP		Integrity protection mode info 10.3.3.19	
Ciphering mode info	OP		Ciphering mode info 10.3.3.5	
Activation time	MD		Activation time 10.3.3.1	Default value is "now"
New U-RNTI	OP		U-RNTI 10.3.3.47	
New C-RNTI	OP		C-RNTI 10.3.3.8	
New DSCH-RNTI	OP		DSCH-RNTI 10.3.3.8a	
RRC State Indicator	MP		RRC State Indicator 10.3.3.10	
UTRAN DRX cycle length coefficient	OP		UTRAN DRX cycle length	

Information Element/Group name	Need	Multi	Type and reference	Semantics description
			coefficient 10.3.3.49	
CN information elements				
CN Information info	OP		CN Information info 10.3.1.3	
UTRAN mobility information elements				
URA identity	OP		URA identity 10.3.2.6	
RB information elements				
RAB information to reconfigure list	OP	1 to < maxRABsetup >		
>RAB information to reconfigure	MP		RAB information to reconfigure 10.3.4.11	
RB information to reconfigure list	MP	1to <maxRB>		Although this IE is not always required, need is MP to align with ASN.1
>RB information to reconfigure	MP		RB information to reconfigure 10.3.4.18	
RB information to be affected list	OP	1 to <maxRB>		
>RB information to be affected	MP		RB information to be affected 10.3.4.17	
TrCH Information Elements				
Uplink transport channels				
UL Transport channel information common for all transport channels	OP		UL Transport channel information common for all transport channels 10.3.5.24	
Deleted TrCH information list	OP	1 to <maxTrCH>		
>Deleted UL TrCH information	MP		Deleted UL TrCH information 10.3.5.5	
Added or Reconfigured TrCH information list	OP	1 to <maxTrCH>		
>Added or Reconfigured UL TrCH information	MP		Added or Reconfigured UL TrCH information 10.3.5.2	
CHOICE *mode*	OP			
>FDD				
>>CPCH set ID	OP		CPCH set ID 10.3.5.3	
>>Added or Reconfigured TrCH information for DRAC list	OP	1 to <maxTrCH>		

Information Element/Group name	Need	Multi	Type and reference	Semantics description
>>>DRAC static information	MP		DRAC static information 10.3.5.7	
>TDD				(no data)
Downlink transport channels				
DL Transport channel information common for all transport channels	OP		DL Transport channel information common for all transport channels 10.3.5.6	
Deleted TrCH information list	OP	1 to <maxTrCH>		
>Deleted DL TrCH information	MP		Deleted DL TrCH information 10.3.5.4	
Added or Reconfigured TrCH information list	OP	1 to <maxTrCH>		
>Added or Reconfigured DL TrCH information	MP		Added or Reconfigured DL TrCH information 10.3.5.1	
PhyCH information elements				
Frequency info	MD		Frequency info 10.3.6.36	Default value is the existing value of frequency information
Uplink radio resources				
Maximum allowed UL TX power	MD		Maximum allowed UL TX power 10.3.6.39	Default value is the existing maximum UL TX power
CHOICE *channel requirement*	OP			
>Uplink DPCH info			Uplink DPCH info 10.3.6.88	
>CPCH SET Info			CPCH SET Info 10.3.6.13	
Downlink radio resources				
CHOICE *mode*	MP			
>FDD				
>>Downlink PDSCH information	OP		Downlink PDSCH information 10.3.6.30	
>TDD				(no data)
Downlink information common for all radio links	OP		Downlink information common for all radio links 10.3.6.24	
Downlink information per radio link list	MP	1 to <maxRL>		Although this IE is not always required, need is MP to align with ASN.1
>Downlink information for each radio link	MP		Downlink information for each radio link 10.3.6.27	

10.2.30 RADIO BEARER RELEASE

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

RLC-SAP: AM or UM

Logical channel: DCCH

Direction: UTRAN → UE

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Message Type	MP		Message Type	
UE Information Elements				
RRC transaction identifier	MP		RRC transaction identifier 10.3.3.36	
Integrity check info	CH		Integrity check info 10.3.3.16	
Integrity protection mode info	OP		Integrity protection mode info 10.3.3.19	
Ciphering mode info	OP		Ciphering mode info 10.3.3.5	
Activation time	MD		Activation time 10.3.3.1	Default value is "now"
New U-RNTI	OP		U-RNTI 10.3.3.47	
New C-RNTI	OP		C-RNTI 10.3.3.8	
New DSCH-RNTI	OP		DSCH-RNTI 10.3.3.8a	
RRC State Indicator	MP		RRC State Indicator 10.3.3.10	
UTRAN DRX cycle length coefficient	OP		UTRAN DRX cycle length coefficient 10.3.3.49	
CN Information Elements				
CN Information info	OP		CN Information info 10.3.1.3	
Signalling Connection release indication	OP		CN domain identity 10.3.1.1	
UTRAN mobility information elements				
URA identity	OP		URA identity 10.3.2.6	
RB Information Elements				
RAB information to reconfigure list	OP	1 to < maxRABsetup >		
>RAB information to reconfigure	MP		RAB information to reconfigure 10.3.4.11	

Information Element/Group name	Need	Multi	Type and reference	Semantics description
RB information to release list	MP	1 to <maxRB>		
>RB information to release	MP		RB information to release 10.3.4.19	
RB information to be affected list	OP	1 to <maxRB>		
>RB information to be affected	MP		RB information to be affected 10.3.4.17	
Downlink counter synchronisation info	OP			
>RB with PDCP information list	OP	1 to <maxRBallRABs>		This IE is needed for each RB having PDCP in the case of lossless SRNS relocation
>>RB with PDCP information	MP		RB with PDCP information 10.3.4.22	
TrCH Information Elements				
Uplink transport channels				
UL Transport channel information common for all transport channels	OP		UL Transport channel information common for all transport channels 10.3.5.24	
Deleted TrCH information list	OP	1 to <maxTrCH>		
>Deleted UL TrCH information	MP		Deleted UL TrCH information 10.3.5.5	
Added or Reconfigured TrCH information list	OP	1 to <maxTrCH>		
>Added or Reconfigured UL TrCH information	MP		Added or Reconfigured UL TrCH information 10.3.5.2	
CHOICE *mode*	OP			
>FDD				
>>CPCH set ID	OP		CPCH set ID 10.3.5.3	
>>Added or Reconfigured TrCH information for DRAC list	OP	1 to <maxTrCH>		
>>>DRAC static information	MP		DRAC static information 10.3.5.7	
>TDD				(no data)
Downlink transport channels				
DL Transport channel information common for all transport channels	OP		DL Transport channel information common for all transport channels 10.3.5.6	

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

10.2.33 RADIO BEARER SETUP

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

RLC-SAP: AM or UM

Logical channel: DCCH

Direction: UTRAN → UE

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Message Type	MP		Message Type	
UE Information Elements				
RRC transaction identifier	MP		RRC transaction identifier 10.3.3.36	
Integrity check info	CH		Integrity check info 10.3.3.16	
Integrity protection mode info	OP		Integrity protection mode info 10.3.3.19	
Ciphering mode info	OP		Ciphering mode info 10.3.3.5	
Activation time	MD		Activation time 10.3.3.1	Default value is "now"
New U-RNTI	OP		U-RNTI 10.3.3.47	
New C-RNTI	OP		C-RNTI 10.3.3.8	
New DSCH-RNTI	OP		DSCH-RNTI 10.3.3.8a	
RRC State Indicator	MP		RRC State Indicator 10.3.3.10	
UTRAN DRX cycle length coefficient	OP		UTRAN DRX cycle length coefficient 10.3.3.49	
CN Information Elements				
CN Information info	OP		CN Information info 10.3.1.3	
UTRAN mobility information elements				
URA identity	OP		URA identity 10.3.2.6	
RB Information Elements				
Signalling RB information to setup list	OP	1 to <maxSRBsetup>		For each signalling radio bearer established
>Signalling RB information to setup	MP		Signalling RB information to setup 10.3.4.24	
RAB information to setup list	OP	1 to <maxRABsetup>		For each RAB established
>RAB information for setup	MP		RAB information for setup 10.3.4.10	
RB information to be affected list	OP	1 to <maxRB>		
>RB information to be affected	MP		RB information to be affected 10.3.4.17	
Downlink counter synchronisation info	OP			

Information Element/Group name	Need	Multi	Type and reference	Semantics description
>RB with PDCP information list	OP	1 to <maxRBallRABs>		This IE is needed for each RB having PDCP in the case of lossless SRNS relocation
>>RB with PDCP information	MP		RB with PDCP information 10.3.4.22	
TrCH Information Elements				
Uplink transport channels				
UL Transport channel information common for all transport channels	OP		UL Transport channel information common for all transport channels 10.3.5.24	
Deleted TrCH information list	OP	1 to <maxTrCH>		
>Deleted UL TrCH information	MP		Deleted UL TrCH information 10.3.5.5	
Added or Reconfigured TrCH information list	OP	1 to <maxTrCH>		
>Added or Reconfigured UL TrCH information	MP		Added or Reconfigured UL TrCH information 10.3.5.2	
CHOICE *mode*	OP			
>FDD				
>>CPCH set ID	OP		CPCH set ID 10.3.5.3	
>>Added or Reconfigured TrCH information for DRAC list	OP	1 to <maxTrCH>		
>>>DRAC static information	MP		DRAC static information 10.3.5.7	
>TDD				(no data)
Downlink transport channels				
DL Transport channel information common for all transport channels	OP		DL Transport channel information common for all transport channels10.3.5.6	
Deleted TrCH information list	OP	1 to <maxTrCH>		
>Deleted DL TrCH information	MP		Deleted DL TrCH information 10.3.5.4	
Added or Reconfigured TrCH information list	OP	1 to <maxTrCH>		
>Added or Reconfigured DL TrCH information	MP		Added or Reconfigured DL TrCH information 10.3.5.1	

Information Element/Group name	Need	Multi	Type and reference	Semantics description
PhyCH information elements				
Frequency info	MD		Frequency info 10.3.6.36	Default value is the existing value of frequency information
Uplink radio resources				
Maximum allowed UL TX power	MD		Maximum allowed UL TX power 10.3.6.39	Default value is the existing maximum UL TX power
CHOICE *channel requirement*	OP			
>Uplink DPCH info			Uplink DPCH info 10.3.6.88	
>CPCH SET Info			CPCH SET Info 10.3.6.13	
Downlink radio resources				
CHOICE *mode*	MP			
>FDD				
>>Downlink PDSCH information	OP		Downlink PDSCH information 10.3.6.30	
>TDD				(no data)
Downlink information common for all radio links	OP		Downlink information common for all radio links 10.3.6.24	
Downlink information per radio link list	OP	1 to <maxRL>		Send downlink information for each radio link
>Downlink information for each radio link	MP		Downlink information for each radio link 10.3.6.27	

10.2.50 TRANSPORT CHANNEL RECONFIGURATION

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

RLC-SAP: AM or UM

Logical channel: DCCH

Direction: UTRAN → UE

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Message Type	MP		Message Type	
UE Information Elements				
RRC transaction identifier	MP		RRC transaction identifier 10.3.3.36	
Integrity check info	CH		Integrity check info 10.3.3.16	
Integrity protection mode info	OP		Integrity protection	

Information Element/Group name	Need	Multi	Type and reference	Semantics description
			mode info 10.3.3.19	
Ciphering mode info	OP		Ciphering mode info 10.3.3.5	
Activation time	MD		Activation time 10.3.3.1	Default value is "now"
New U-RNTI	OP		U-RNTI 10.3.3.47	
New C-RNTI	OP		C-RNTI 10.3.3.8	
New DSCH-RNTI	OP		DSCH-RNTI 10.3.3.8a	
RRC State Indicator	MP		RRC State Indicator 10.3.3.10	
UTRAN DRX cycle length coefficient	OP		UTRAN DRX cycle length coefficient 10.3.3.49	
CN Information Elements				
CN Information info	OP		CN Information info 10.3.1.3	
UTRAN mobility information elements				
URA identity	OP		URA identity 10.3.2.6	
RB information elements				
Downlink counter synchronisation info	OP			
>RB with PDCP information list	OP	1 to <maxRBallRABs>		This IE is needed for each RB having PDCP in the case of lossless SRNS relocation
>>RB with PDCP information	MP		RB with PDCP information 10.3.4.22	
TrCH Information Elements				
Uplink transport channels				
UL Transport channel information common for all transport channels	OP		UL Transport channel information common for all transport channels 10.3.5.24	
Added or Reconfigured TrCH information list	OP	1 to <maxTrCH>		
>Added or Reconfigured UL TrCH information	MP		Added or Reconfigured UL TrCH information 10.3.5.2	
CHOICE *mode*	OP			
>FDD				
>>CPCH set ID	OP		CPCH set ID 10.3.5.3	
>>Added or Reconfigured TrCH information for DRAC list	OP	1 to <maxTrCH>		
>>>DRAC static information	MP		DRAC static information 10.3.5.7	

Information Element/Group name	Need	Multi	Type and reference	Semantics description
>TDD				(no data)
Downlink transport channels				
DL Transport channel information common for all transport channels	OP		DL Transport channel information common for all transport channels 10.3.5.6	
Added or Reconfigured TrCH information list	OP	1 to <maxTrCH>		
>Added or Reconfigured DL TrCH information	MP		Added or Reconfigured DL TrCH information 10.3.5.1	
PhyCH information elements				
Frequency info	MD		Frequency info 10.3.6.36	Default value is the existing value of frequency information
Uplink radio resources				
Maximum allowed UL TX power	MD		Maximum allowed UL TX power 10.3.6.39	Default value is the existing maximum UL TX power
CHOICE *channel requirement*	OP			
>Uplink DPCH info			Uplink DPCH info 10.3.6.88	
>CPCH SET Info			CPCH SET Info 10.3.6.13	
Downlink radio resources				
CHOICE *mode*	MP			
>FDD				
>>Downlink PDSCH information	OP		Downlink PDSCH information 10.3.6.30	
>TDD				(no data)
Downlink information common for all radio links	OP		Downlink information common for all radio links 10.3.6.24	
Downlink information per radio link list	OP	1 to <maxRL>		Send downlink information for each radio link
>Downlink information for each radio link	MP		Downlink information for each radio link 10.3.6.27	

10.3.3.8a DSCH-RNTI

In FDD, the DSCH-RNTI identifies an UE in CELL_DCH using a DSCH within a cell. In TDD, the DSCH-RNTI identifies a UE in CELL_DCH or CELL_FACH using a DSCH or USCH within the cell.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
DSCH-RNTI	MP		bit string(16)	

11.2 PDU definitions

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

PDU-definitions DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

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

IMPORTS

-- Core Network IEs :
    CN-DomainIdentity,
    CN-InformationInfo,
    CN-InformationInfoFull,
    NAS-Message,
    PagingRecordTypeID,
-- UTRAN Mobility IEs :
    URA-Identity,
-- User Equipment IEs :
    ActivationTime,
    C-RNTI,
    CapabilityUpdateRequirement,
    CapabilityUpdateRequirement-r4,
    CapabilityUpdateRequirement-r4-ext,
    CellUpdateCause,
    CipheringAlgorithm,
    CipheringModeInfo,
    DSCH-RNTI,
    EstablishmentCause,




-- **************************************************
--
-- CELL UPDATE CONFIRM
--
-- **************************************************

CellUpdateConfirm ::= CHOICE {
    r3                              SEQUENCE {
        cellUpdateConfirm-r3            CellUpdateConfirm-r3-IEs,
        v3a0N~~nonCriticalExtensions          SEQUENCE {
            cellUpdateConfirm-v3a0ext   CellUpdateConfirm-v3a0ext,
            v4NonCriticalExtensions         SEQUENCE {
                cellUpdateConfirm-r3-r4-ext     CellUpdateConfirm-r3-r4-ext-IEs,
                nonCriticalExtensions           SEQUENCE {} OPTIONAL
}           OPTIONAL
        }       OPTIONAL
    },
    later-than-r3                   SEQUENCE {
        rrc-TransactionIdentifier       RRC-TransactionIdentifier,
        criticalExtensions              CHOICE {
            r4                              SEQUENCE {
                cellUpdateConfirm-r4            CellUpdateConfirm-r4-IEs,
                nonCriticalExtensions           SEQUENCE {}     OPTIONAL
            },
```

```
            criticalExtensions              SEQUENCE {}
        }
    }
}
CellUpdateConfirm-r3-IEs ::= SEQUENCE {
    -- User equipment IEs
        rrc-TransactionIdentifier       RRC-TransactionIdentifier,
        integrityProtectionModeInfo     IntegrityProtectionModeInfo         OPTIONAL,
        cipheringModeInfo               CipheringModeInfo                   OPTIONAL,
        activationTime                  ActivationTime                      OPTIONAL,
        new-U-RNTI                      U-RNTI                              OPTIONAL,
        new-C-RNTI                      C-RNTI                              OPTIONAL,
        rrc-StateIndicator              RRC-StateIndicator,
        utran-DRX-CycleLengthCoeff      UTRAN-DRX-CycleLengthCoefficient    OPTIONAL,
        rlc-Re-establishIndicatorRb2-3or4       BOOLEAN,
        rlc-Re-establishIndicatorRb5orAbove     BOOLEAN,
 -- CN information elements
        cn-InformationInfo              CN-InformationInfo                  OPTIONAL,
    -- UTRAN mobility IEs
        ura-Identity                    URA-Identity                        OPTIONAL,
    -- Radio bearer IEs
        rb-InformationReleaseList       RB-InformationReleaseList           OPTIONAL,
        rb-InformationReconfigList      RB-InformationReconfigList          OPTIONAL,
        rb-InformationAffectedList      RB-InformationAffectedList          OPTIONAL,
        dl-CounterSynchronisationInfo   DL-CounterSynchronisationInfo       OPTIONAL,
    -- Transport channel IEs
        ul-CommonTransChInfo            UL-CommonTransChInfo                OPTIONAL,
        ul-deletedTransChInfoList       UL-DeletedTransChInfoList           OPTIONAL,
        ul-AddReconfTransChInfoList     UL-AddReconfTransChInfoList         OPTIONAL,
        modeSpecificTransChInfo         CHOICE {
            fdd                             SEQUENCE {
                cpch-SetID                      CPCH-SetID                  OPTIONAL,
                addReconfTransChDRAC-Info       DRAC-StaticInformationList  OPTIONAL
            },
            tdd                             NULL
        },
        dl-CommonTransChInfo            DL-CommonTransChInfo                OPTIONAL,
        dl-DeletedTransChInfoList       DL-DeletedTransChInfoList           OPTIONAL,
        dl-AddReconfTransChInfoList     DL-AddReconfTransChInfoList         OPTIONAL,
    -- Physical channel IEs
        frequencyInfo                   FrequencyInfo                       OPTIONAL,
        maxAllowedUL-TX-Power           MaxAllowedUL-TX-Power               OPTIONAL,
        ul-ChannelRequirement           UL-ChannelRequirement               OPTIONAL,
        modeSpecificPhysChInfo          CHOICE {
            fdd                             SEQUENCE {
                dl-PDSCH-Information            DL-PDSCH-Information        OPTIONAL
            },
            tdd                             NULL
        },
        dl-CommonInformation            DL-CommonInformation                OPTIONAL,
        dl-InformationPerRL-List        DL-InformationPerRL-List            OPTIONAL
}

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


CellUpdateConfirm-r3-r4-ext-IEs ::= SEQUENCE {
    -- Physical channel IEs
    -- The following IE extends SSDT-Information, which is included in
    -- DL-CommonInformation. FDD only.
    ssdt-UL                         SSDT-UL-r4                          OPTIONAL
}

CellUpdateConfirm-r4-IEs ::= SEQUENCE {
    -- User equipment IEs
        integrityProtectionModeInfo     IntegrityProtectionModeInfo         OPTIONAL,
        cipheringModeInfo               CipheringModeInfo                   OPTIONAL,
        activationTime                  ActivationTime                      OPTIONAL,
        new-U-RNTI                      U-RNTI                              OPTIONAL,
        new-C-RNTI                      C-RNTI                              OPTIONAL,
        new-DSCH-RNTI                   DSCH-RNTI                           OPTIONAL,
        rrc-StateIndicator              RRC-StateIndicator,
        utran-DRX-CycleLengthCoeff      UTRAN-DRX-CycleLengthCoefficient    OPTIONAL,
        rlc-ResetIndicatorC-Plane       BOOLEAN,
        rlc-ResetIndicatorU-Plane       BOOLEAN,
 -- CN information elements
```

```
        cn-InformationInfo              CN-InformationInfo                  OPTIONAL,
    -- UTRAN mobility IEs
        ura-Identity                    URA-Identity                        OPTIONAL,
    -- Radio bearer IEs
        rb-InformationReleaseList       RB-InformationReleaseList           OPTIONAL,
        rb-InformationReconfigList      RB-InformationReconfigList-r4           OPTIONAL,
        rb-InformationAffectedList      RB-InformationAffectedList          OPTIONAL,
        rb-WithPDCP-InfoList            RB-WithPDCP-InfoList                OPTIONAL,
    -- Transport channel IEs
        ul-CommonTransChInfo            UL-CommonTransChInfo                OPTIONAL,
        ul-deletedTransChInfoList       UL-DeletedTransChInfoList           OPTIONAL,
        ul-AddReconfTransChInfoList     UL-AddReconfTransChInfoList         OPTIONAL,
        modeSpecificTransChInfo         CHOICE {
            fdd                             SEQUENCE {
                cpch-SetID                      CPCH-SetID                  OPTIONAL,
                addReconfTransChDRAC-Info       DRAC-StaticInformationList  OPTIONAL
            },
            tdd                             NULL
        },
        dl-CommonTransChInfo            DL-CommonTransChInfo-r4             OPTIONAL,
        dl-DeletedTransChInfoList       DL-DeletedTransChInfoList           OPTIONAL,
        dl-AddReconfTransChInfoList     DL-AddReconfTransChInfoList         OPTIONAL,
    -- Physical channel IEs
        frequencyInfo                   FrequencyInfo                       OPTIONAL,
        maxAllowedUL-TX-Power           MaxAllowedUL-TX-Power               OPTIONAL,
        ul-ChannelRequirement           UL-ChannelRequirement-r4            OPTIONAL,
        modeSpecificPhysChInfo          CHOICE {
            fdd                             SEQUENCE {
                dl-PDSCH-Information            DL-PDSCH-Information        OPTIONAL
            },
            tdd                             NULL
        },
        dl-CommonInformation            DL-CommonInformation-r4             OPTIONAL,
        dl-InformationPerRL-List        DL-InformationPerRL-List-r4         OPTIONAL
}


. . .


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

PhysicalChannelReconfiguration ::= CHOICE {
    r3                              SEQUENCE {
        physicalChannelReconfiguration-r3
                                        PhysicalChannelReconfiguration-r3-IEs,
        v3a0NonCriticalExtensions       SEQUENCE {
            physicalChannelReconfiguration-v3a0ext
                                        PhysicalChannelReconfiguration-v3a0ext,
            v4Nnonv4nonCriticalExtensions       SEQUENCE {
                physicalChannelReconfiguration-r3-r4-ext
                                        PhysicalChannelReconfiguration-r3-r4-ext-IEs,
                nonCriticalExtensions               SEQUENCE {} OPTIONAL
            }   OPTIONAL
        }   OPTIONAL
    },
    later-than-r3                   SEQUENCE {
        rrc-TransactionIdentifier       RRC-TransactionIdentifier,
            criticalExtensions              CHOICE {
            r4                              SEQUENCE {
                physicalChannelReconfiguration-r4
                                                PhysicalChannelReconfiguration-r4-IEs,
                nonCriticalExtensions           SEQUENCE {}     OPTIONAL
            },
            criticalExtensions              SEQUENCE {}
        }
    }
}

PhysicalChannelReconfiguration-r3-IEs ::= SEQUENCE {
    -- User equipment IEs
        rrc-TransactionIdentifier       RRC-TransactionIdentifier,
        integrityProtectionModeInfo     IntegrityProtectionModeInfo         OPTIONAL,
```

```
        cipheringModeInfo               CipheringModeInfo                   OPTIONAL,
        activationTime                  ActivationTime                      OPTIONAL,
        new-U-RNTI                      U-RNTI                              OPTIONAL,
        new-C-RNTI                      C-RNTI                              OPTIONAL,
        rrc-StateIndicator              RRC-StateIndicator,
        utran-DRX-CycleLengthCoeff      UTRAN-DRX-CycleLengthCoefficient    OPTIONAL,
    -- Core network IEs
        cn-InformationInfo              CN-InformationInfo                  OPTIONAL,
    -- UTRAN mobility IEs
        ura-Identity                    URA-Identity                        OPTIONAL,
    -- Radio bearer IEs
        dl-CounterSynchronisationInfo   DL-CounterSynchronisationInfo       OPTIONAL,
    -- Physical channel IEs
        frequencyInfo                   FrequencyInfo                       OPTIONAL,
        maxAllowedUL-TX-Power           MaxAllowedUL-TX-Power               OPTIONAL,
        ul-ChannelRequirement           UL-ChannelRequirementWithCPCH-SetID     OPTIONAL,
        -- TABULAR: UL-ChannelRequirementWithCPCH-SetID contains the choice
        -- between UL DPCH info, CPCH SET info and CPCH set ID.
        modeSpecificInfo                CHOICE {
            fdd                             SEQUENCE {
                dl-PDSCH-Information            DL-PDSCH-Information        OPTIONAL
            },
            tdd                             NULL
        },
        dl-CommonInformation            DL-CommonInformation                OPTIONAL,
        dl-InformationPerRL-List        DL-InformationPerRL-List            OPTIONAL
}

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

PhysicalChannelReconfiguration-r3-r4-ext-IEs ::= SEQUENCE {
    -- Physical channel IEs
    -- The following IE extends SSDT-Information, which is included in
    -- DL-CommonInformation. FDD only.
    ssdt-UL                             SSDT-UL-r4                          OPTIONAL
}

PhysicalChannelReconfiguration-r4-IEs ::= SEQUENCE {
    -- User equipment IEs
        integrityProtectionModeInfo     IntegrityProtectionModeInfo         OPTIONAL,
        cipheringModeInfo               CipheringModeInfo                   OPTIONAL,
        activationTime                  ActivationTime                      OPTIONAL,
        new-U-RNTI                      U-RNTI                              OPTIONAL,
        new-C-RNTI                      C-RNTI                              OPTIONAL,
        new-DSCH-RNTI                   DSCH-RNTI                           OPTIONAL,
        rrc-StateIndicator              RRC-StateIndicator,
        utran-DRX-CycleLengthCoeff      UTRAN-DRX-CycleLengthCoefficient    OPTIONAL,
    -- Core network IEs
        cn-InformationInfo              CN-InformationInfo                  OPTIONAL,
    -- UTRAN mobility IEs
        ura-Identity                    URA-Identity                        OPTIONAL,
    -- Radio bearer IEs
        rb-WithPDCP-InfoList            RB-WithPDCP-InfoList                OPTIONAL,
    -- Physical channel IEs
        frequencyInfo                   FrequencyInfo                       OPTIONAL,
        maxAllowedUL-TX-Power           MaxAllowedUL-TX-Power               OPTIONAL,
        ul-ChannelRequirement           UL-ChannelRequirementWithCPCH-SetID-r4  OPTIONAL,
        -- TABULAR: UL-ChannelRequirementWithCPCH-SetID-r4 contains the choice
        -- between UL DPCH info, CPCH SET info and CPCH set ID.
        modeSpecificInfo                CHOICE {
            fdd                             SEQUENCE {
                dl-PDSCH-Information            DL-PDSCH-Information        OPTIONAL
            },
            tdd                             NULL
        },
        dl-CommonInformation            DL-CommonInformation-r4             OPTIONAL,
        dl-InformationPerRL-List        DL-InformationPerRL-List-r4         OPTIONAL
}



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-- **************************************************
--
-- PHYSICAL SHARED CHANNEL ALLOCATION (TDD only)
```

```
--
-- **************************************************

PhysicalSharedChannelAllocation ::= CHOICE {
    r3                              SEQUENCE {
        physicalSharedChannelAllocation-r3
                                        PhysicalSharedChannelAllocation-r3-IEs,
        nonCriticalExtensions           SEQUENCE {} OPTIONAL
    },
    later-than-r3                   SEQUENCE {
        dschc-RNTI                      ----DSCHC-RNTI                              OPTIONAL,
        rrc-TransactionIdentifier       RRC-TransactionIdentifier,
        criticalExtensions              CHOICE {
            r4                              SEQUENCE {
                physicalSharedChannelAllocation-r4
                                                PhysicalSharedChannelAllocation-r4-IEs,
                nonCriticalExtensions           SEQUENCE {}     OPTIONAL
            },
            criticalExtensions              SEQUENCE {}
        }
    }
}

PhysicalSharedChannelAllocation-r3-IEs ::= SEQUENCE {
    -- TABULAR: Integrity protection shall not be performed on this message.
    -- User equipment IEs
        dschc-RNTI                      dschC-RNTI                                  OPTIONAL,
        rrc-TransactionIdentifier       RRC-TransactionIdentifier,
    -- Physical channel IEs
        ul-TimingAdvance                UL-TimingAdvanceControl             OPTIONAL,
        pusch-CapacityAllocationInfo    PUSCH-CapacityAllocationInfo        OPTIONAL,
        pdsch-CapacityAllocationInfo    PDSCH-CapacityAllocationInfo        OPTIONAL,
        confirmRequest                  ENUMERATED {
                                            confirmPDSCH, confirmPUSCH }    OPTIONAL,
        -- TABULAR: If the above value is not present, the default value "No Confirm"
        -- shall be used as specified in 10.2.25.
        trafficVolumeReportRequest      INTEGER (0..255)                    OPTIONAL,
        iscpTimeslotList                    TimeslotList                        OPTIONAL,
        requestPCCPCHRSCP                   BOOLEAN
}

PhysicalSharedChannelAllocation-r4-IEs ::= SEQUENCE {
    -- TABULAR: Integrity protection shall not be performed on this message.
    -- Physical channel IEs
        ul-TimingAdvance                UL-TimingAdvanceControl-r4          OPTIONAL,
        pusch-CapacityAllocationInfo    PUSCH-CapacityAllocationInfo-r4     OPTIONAL,
        pdsch-CapacityAllocationInfo    PDSCH-CapacityAllocationInfo-r4     OPTIONAL,
        confirmRequest                  ENUMERATED {
                                            confirmPDSCH, confirmPUSCH }    OPTIONAL,
        -- TABULAR: If the above value is not present, the default value "No Confirm"
        -- shall be used as specified in 10.2.25.
        iscpTimeslotList                TimeslotList-r4                     OPTIONAL,
        requestPCCPCHRSCP               BOOLEAN
}

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-- **************************************************
--
-- PUSCH CAPACITY REQUEST (TDD only)
--
-- **************************************************

PUSCHCapacityRequest ::= SEQUENCE {
    -- User equipment IEs
        dschc-RNTI                      ----DSCHC-RNTI                              OPTIONAL,
    -- Measurement IEs
        trafficVolume                   TrafficVolumeMeasuredResultsList,
        timeslotListWithISCP            TimeslotListWithISCP                OPTIONAL,
        primaryCCPCH-RSCP               PrimaryCCPCH-RSCP                   OPTIONAL,
        allocationConfirmation          CHOICE {
            pdschConfirmation               PDSCH-Identity,
            puschConfirmation               PUSCH-Identity
        }                                                                   OPTIONAL,
        protocolErrorIndicator          ProtocolErrorIndicatorWithMoreInfo,
    -- Extension mechanism for non- release99 information
```

```
        nonCriticalExtensions           SEQUENCE {} OPTIONAL
}

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

RadioBearerReconfiguration ::= CHOICE {
    r3                              SEQUENCE {
        radioBearerReconfiguration-r3   RadioBearerReconfiguration-r3-IEs,
        v3a0nonCriticalExtensions           SEQUENCE {
            radioBearerReconfiguration-v3a0ext      RadioBearerReconfiguration-v3a0ext,
            v4NnonCriticalExtensions        SEQUENCE {
                radioBearerReconfiguration-r3-r4-ext
                                                RadioBearerReconfiguration-r3-r4-ext-IEs,
                nonCriticalExtensions               SEQUENCE {} OPTIONAL
            }   OPTIONAL
        }   OPTIONAL
    },
    later-than-r3                   SEQUENCE {
        rrc-TransactionIdentifier       RRC-TransactionIdentifier,
        criticalExtensions              CHOICE {
            r4                              SEQUENCE {
                radioBearerReconfiguration-r4   RadioBearerReconfiguration-r4-IEs,
                nonCriticalExtensions           SEQUENCE {}     OPTIONAL
            },
            criticalExtensions              SEQUENCE {}
        }
    }
}

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

```
            tdd                             NULL
        },
        dl-CommonInformation            DL-CommonInformation                OPTIONAL,
        dl-InformationPerRL-List        DL-InformationPerRL-List
    -- NOTE: IE dl-InformationPerRL-List should be optional in later versions of this message
}

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


RadioBearerReconfiguration-r3-r4-ext-IEs ::= SEQUENCE {
    -- Physical channel IEs
    -- The following IE extends SSDT-Information, which is included in
    -- DL-CommonInformation. FDD only.
    ssdt-UL                             SSDT-UL-r4                          OPTIONAL
}

RadioBearerReconfiguration-r4-IEs ::= SEQUENCE {
    -- User equipment IEs
        integrityProtectionModeInfo     IntegrityProtectionModeInfo         OPTIONAL,
        cipheringModeInfo               CipheringModeInfo                   OPTIONAL,
        activationTime                  ActivationTime                      OPTIONAL,
        new-U-RNTI                      U-RNTI                              OPTIONAL,
        new-C-RNTI                      C-RNTI                              OPTIONAL,
        new-DSCH-RNTI                   DSCH-RNTI                           OPTIONAL,
        rrc-StateIndicator              RRC-StateIndicator,
        utran-DRX-CycleLengthCoeff      UTRAN-DRX-CycleLengthCoefficient    OPTIONAL,
    -- Core network IEs
        cn-InformationInfo              CN-InformationInfo                  OPTIONAL,
    -- UTRAN mobility IEs
        ura-Identity                    URA-Identity                        OPTIONAL,
    -- Radio bearer IEs
        rab-InformationReconfigList     RAB-InformationReconfigList         OPTIONAL,
        rb-InformationReconfigList      RB-InformationReconfigList-r4       OPTIONAL,
        rb-InformationAffectedList      RB-InformationAffectedList          OPTIONAL,
    -- Transport channel IEs
        ul-CommonTransChInfo            UL-CommonTransChInfo                OPTIONAL,
        ul-deletedTransChInfoList       UL-DeletedTransChInfoList           OPTIONAL,
        ul-AddReconfTransChInfoList     UL-AddReconfTransChInfoList         OPTIONAL,
        modeSpecificTransChInfo         CHOICE {
            fdd                             SEQUENCE {
                cpch-SetID                      CPCH-SetID                  OPTIONAL,
                addReconfTransChDRAC-Info       DRAC-StaticInformationList  OPTIONAL
            },
            tdd                             NULL
        }                                                                   OPTIONAL,
        dl-CommonTransChInfo            DL-CommonTransChInfo-r4             OPTIONAL,
        dl-DeletedTransChInfoList       DL-DeletedTransChInfoList           OPTIONAL,
        dl-AddReconfTransChInfoList     DL-AddReconfTransChInfo2List        OPTIONAL,
    -- Physical channel IEs
        frequencyInfo                   FrequencyInfo                       OPTIONAL,
        maxAllowedUL-TX-Power           MaxAllowedUL-TX-Power               OPTIONAL,
        ul-ChannelRequirement           UL-ChannelRequirement-r4            OPTIONAL,
        modeSpecificPhysChInfo          CHOICE {
            fdd                             SEQUENCE {
                dl-PDSCH-Information            DL-PDSCH-Information        OPTIONAL
            },
            tdd                             NULL
        },
        dl-CommonInformation            DL-CommonInformation-r4             OPTIONAL,
        dl-InformationPerRL-List        DL-InformationPerRL-List-r4         OPTIONAL
}

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

RadioBearerRelease ::= CHOICE {
    r3                              SEQUENCE {
        radioBearerRelease-r3           RadioBearerRelease-r3-IEs,
        v3a0nonCriticalExtensions           SEQUENCE {
            radioBearerRelease-v3a0ext      RadioBearerRelease-v3a0ext,
```

```
        v4NnonCriticalExtensions        SEQUENCE {
            radioBearerRelease-r3-r4-ext    RadioBearerRelease-r3-r4-ext-IEs,
            nonCriticalExtensions           SEQUENCE {} OPTIONAL
        }   OPTIONAL
    }   OPTIONAL
    },
    later-than-r3                   SEQUENCE {
        rrc-TransactionIdentifier       RRC-TransactionIdentifier,
        criticalExtensions              CHOICE {
            r4                              SEQUENCE {
                radioBearerRelease-r4           RadioBearerRelease-r4-IEs,
                nonCriticalExtensions           SEQUENCE {}     OPTIONAL
            },
            criticalExtensions              SEQUENCE {}
        }
    }
}

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

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

RadioBearerRelease-r3-r4-ext-IEs ::= SEQUENCE {
    -- Physical channel IEs
    -- The following IE extends SSDT-Information, which is included in
    -- DL-CommonInformation. FDD only.
    ssdt-UL                             SSDT-UL-r4                          OPTIONAL
}

RadioBearerRelease-r4-IEs ::= SEQUENCE {
```

```
    -- User equipment IEs
        integrityProtectionModeInfo     IntegrityProtectionModeInfo         OPTIONAL,
        cipheringModeInfo               CipheringModeInfo                   OPTIONAL,
        activationTime                  ActivationTime                      OPTIONAL,
        new-U-RNTI                      U-RNTI                              OPTIONAL,
        new-C-RNTI                      C-RNTI                              OPTIONAL,
        new-DSCH-RNTI                   DSCH-RNTI                           OPTIONAL,
        rrc-StateIndicator              RRC-StateIndicator,
        utran-DRX-CycleLengthCoeff      UTRAN-DRX-CycleLengthCoefficient    OPTIONAL,
    -- Core network IEs
        cn-InformationInfo              CN-InformationInfo                  OPTIONAL,
        signallingConnectionRelIndication   CN-DomainIdentity               OPTIONAL,
    -- UTRAN mobility IEs
        ura-Identity                    URA-Identity                        OPTIONAL,
    -- Radio bearer IEs
        rab-InformationReconfigList     RAB-InformationReconfigList         OPTIONAL,
        rb-InformationReleaseList       RB-InformationReleaseList,
        rb-InformationAffectedList      RB-InformationAffectedList          OPTIONAL,
        rb-WithPDCP-InfoList            RB-WithPDCP-InfoList                OPTIONAL,
    -- Transport channel IEs
        ul-CommonTransChInfo            UL-CommonTransChInfo                OPTIONAL,
        ul-deletedTransChInfoList       UL-DeletedTransChInfoList           OPTIONAL,
        ul-AddReconfTransChInfoList     UL-AddReconfTransChInfoList         OPTIONAL,
        modeSpecificTransChInfo         CHOICE {
            fdd                             SEQUENCE {
                cpch-SetID                      CPCH-SetID                  OPTIONAL,
                addReconfTransChDRAC-Info       DRAC-StaticInformationList  OPTIONAL
            },
            tdd                             NULL
        }                                                                   OPTIONAL,
        dl-CommonTransChInfo            DL-CommonTransChInfo-r4             OPTIONAL,
        dl-DeletedTransChInfoList       DL-DeletedTransChInfoList           OPTIONAL,
        dl-AddReconfTransChInfoList     DL-AddReconfTransChInfo2List        OPTIONAL,
    -- Physical channel IEs
        frequencyInfo                   FrequencyInfo                       OPTIONAL,
        maxAllowedUL-TX-Power           MaxAllowedUL-TX-Power               OPTIONAL,
        ul-ChannelRequirement           UL-ChannelRequirement-r4            OPTIONAL,
        modeSpecificPhysChInfo          CHOICE {
            fdd                             SEQUENCE {
                dl-PDSCH-Information            DL-PDSCH-Information        OPTIONAL
            },
            tdd                             NULL
        },
        dl-CommonInformation            DL-CommonInformation-r4             OPTIONAL,
        dl-InformationPerRL-List        DL-InformationPerRL-List-r4         OPTIONAL
}

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

RadioBearerSetup ::= CHOICE {
    r3                              SEQUENCE {
        radioBearerSetup-r3             RadioBearerSetup-r3-IEs,
        v3a0nonCriticalExtensions           SEQUENCE {
            radioBearerSetup-v3a0ext        RadioBearerSetup-v3a0ext,
            v4Nnon-CriticalExtensions       SEQUENCE {
                radioBearerSetup-r3-r4-ext          RadioBearerSetup-r3-r4-ext-IEs,
                nonCriticalExtensions           SEQUENCE {} OPTIONAL
            }   OPTIONAL
        }   OPTIONAL
    },
    later-than-r3                   SEQUENCE {
        rrc-TransactionIdentifier       RRC-TransactionIdentifier,
        criticalExtensions              CHOICE {
            r4                              SEQUENCE {
                radioBearerSetup-r4             RadioBearerSetup-r4-IEs,
                nonCriticalExtensions           SEQUENCE {}     OPTIONAL
            },
            criticalExtensions              SEQUENCE {}
        }
    }
}
```

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

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

RadioBearerSetup-r3-r4-ext-IEs ::= SEQUENCE {
    -- Physical channel IEs
    -- The following IE extends SSDT-Information, which is included in
    -- DL-CommonInformation. FDD only.
    ssdt-UL                             SSDT-UL-r4                          OPTIONAL
}

RadioBearerSetup-r4-IEs ::= SEQUENCE {
    -- User equipment IEs
        integrityProtectionModeInfo     IntegrityProtectionModeInfo         OPTIONAL,
        cipheringModeInfo               CipheringModeInfo                   OPTIONAL,
        activationTime                  ActivationTime                      OPTIONAL,
        new-U-RNTI                      U-RNTI                              OPTIONAL,
        new-C-RNTI                      C-RNTI                              OPTIONAL,
        new-DSCH-RNTI                   DSCH-RNTI                           OPTIONAL,
        rrc-StateIndicator              RRC-StateIndicator,
        utran-DRX-CycleLengthCoeff      UTRAN-DRX-CycleLengthCoefficient    OPTIONAL,
    -- UTRAN mobility IEs
        ura-Identity                    URA-Identity                        OPTIONAL,
    -- Core network IEs
        cn-InformationInfo              CN-InformationInfo                  OPTIONAL,
    -- Radio bearer IEs
        srb-InformationSetupList        SRB-InformationSetupList            OPTIONAL,
        rab-InformationSetupList        RAB-InformationSetupList-r4         OPTIONAL,
        rb-InformationAffectedList      RB-InformationAffectedList          OPTIONAL,
    -- Transport channel IEs
        ul-CommonTransChInfo            UL-CommonTransChInfo                OPTIONAL,
```

```
        ul-deletedTransChInfoList       UL-DeletedTransChInfoList           OPTIONAL,
        ul-AddReconfTransChInfoList     UL-AddReconfTransChInfoList         OPTIONAL,
        modeSpecificTransChInfo         CHOICE {
            fdd                             SEQUENCE {
                cpch-SetID                      CPCH-SetID                  OPTIONAL,
                addReconfTransChDRAC-Info       DRAC-StaticInformationList  OPTIONAL
            },
            tdd                             NULL
        }                                                                   OPTIONAL,
        dl-CommonTransChInfo            DL-CommonTransChInfo-r4             OPTIONAL,
        dl-DeletedTransChInfoList       DL-DeletedTransChInfoList           OPTIONAL,
        dl-AddReconfTransChInfoList     DL-AddReconfTransChInfoList         OPTIONAL,
    -- Physical channel IEs
        frequencyInfo                   FrequencyInfo                       OPTIONAL,
        maxAllowedUL-TX-Power           MaxAllowedUL-TX-Power               OPTIONAL,
        ul-ChannelRequirement           UL-ChannelRequirement-r4            OPTIONAL,
        modeSpecificPhysChInfo          CHOICE {
            fdd                             SEQUENCE {
                dl-PDSCH-Information            DL-PDSCH-Information        OPTIONAL
            },
            tdd                             NULL
        },
        dl-CommonInformation            DL-CommonInformation-r4             OPTIONAL,
        dl-InformationPerRL-List        DL-InformationPerRL-List-r4         OPTIONAL
}

. . .


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

TransportChannelReconfiguration ::= CHOICE {
    r3                              SEQUENCE {
        transportChannelReconfiguration-r3
                                        TransportChannelReconfiguration-r3-IEs,
        v3a0nonCriticalExtensions           SEQUENCE {
            transportChannelReconfiguration-v3a0ext
                                        TransportChannelReconfiguration-v3a0ext,
            v4NnonCriticalExtensions        SEQUENCE {
                transportChannelReconfiguration-r3-r4-ext
                                            TransportChannelReconfiguration-r3-r4-ext-IEs,
                nonCriticalExtensions       SEQUENCE {} OPTIONAL
            }       OPTIONAL
        }       OPTIONAL
    },
    later-than-r3                   SEQUENCE {
        rrc-TransactionIdentifier       RRC-TransactionIdentifier,
        criticalExtensions              CHOICE {
            r4                              SEQUENCE {
                transportChannelReconfiguration-r4
                                                TransportChannelReconfiguration-r4-IEs,
                nonCriticalExtensions           SEQUENCE {}     OPTIONAL
            },
            criticalExtensions              SEQUENCE {}
        }
    }
}

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

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

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

TransportChannelReconfiguration-r3-r4-ext-IEs ::= SEQUENCE {
    -- Physical channel IEs
    -- The following IE extends SSDT-Information, which is included in
    -- DL-CommonInformation. FDD only.
    ssdt-UL                         SSDT-UL-r4                          OPTIONAL
}

TransportChannelReconfiguration-r4-IEs ::= SEQUENCE {
    -- User equipment IEs
        integrityProtectionModeInfo     IntegrityProtectionModeInfo     OPTIONAL,
        cipheringModeInfo               CipheringModeInfo               OPTIONAL,
        activationTime                  ActivationTime                  OPTIONAL,
        new-U-RNTI                      U-RNTI                          OPTIONAL,
        new-C-RNTI                      C-RNTI                          OPTIONAL,
        new-DSCH-RNTI                   DSCH-RNTI                       OPTIONAL,
        rrc-StateIndicator              RRC-StateIndicator,
        utran-DRX-CycleLengthCoeff      UTRAN-DRX-CycleLengthCoefficient    OPTIONAL,
    -- Core network IEs
        cn-InformationInfo              CN-InformationInfo              OPTIONAL,
    -- UTRAN mobility IEs
        ura-Identity                    URA-Identity                    OPTIONAL,
    -- Radio bearer IEs
        rb-WithPDCP-InfoList            RB-WithPDCP-InfoList            OPTIONAL,
    -- Transport channel IEs
        ul-CommonTransChInfo            UL-CommonTransChInfo            OPTIONAL,
        ul-AddReconfTransChInfoList     UL-AddReconfTransChInfoList     OPTIONAL,
        modeSpecificTransChInfo         CHOICE {
            fdd                             SEQUENCE {
                cpch-SetID                      CPCH-SetID                  OPTIONAL,
                addReconfTransChDRAC-Info       DRAC-StaticInformationList  OPTIONAL
            },
            tdd                             NULL
        }                                                                   OPTIONAL,
        dl-CommonTransChInfo            DL-CommonTransChInfo-r4             OPTIONAL,
        dl-AddReconfTransChInfoList     DL-AddReconfTransChInfoList         OPTIONAL,
    -- Physical channel IEs
        frequencyInfo                   FrequencyInfo                       OPTIONAL,
        maxAllowedUL-TX-Power           MaxAllowedUL-TX-Power               OPTIONAL,
        ul-ChannelRequirement           UL-ChannelRequirement-r4            OPTIONAL,
        modeSpecificPhysChInfo          CHOICE {
            fdd                             SEQUENCE {
                dl-PDSCH-Information            DL-PDSCH-Information        OPTIONAL
            },
            tdd                         NULL
        },
        dl-CommonInformation            DL-CommonInformation-r4             OPTIONAL,
        dl-InformationPerRL-List        DL-InformationPerRL-List-r4         OPTIONAL
}
```

11.3 Information element definitions

```
. . .

DRAC-SysInfo ::=                    SEQUENCE {
    transmissionProbability             TransmissionProbability,
    maximumBitRate                      MaximumBitRate
}

DRAC-SysInfoList ::=                SEQUENCE (SIZE (1..maxDRACclasses)) OF
                                        DRAC-SysInfo

DSCH-RNTI ::=                           BIT STRING (SIZE (16))

ESN-DS-41 ::=                       BIT STRING (SIZE (32))
```

13.4.3a DSCH_RNTI

This variable stores the assigned DSCH-RNTI for this UE when in CELL_DCH state.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
DSCH-RNTI	OP		DSCH-RNTI 10.3.3.8	Cleared when entering UTRA RRC connected mode when not otherwise stated in the procedure. Cleared when leaving UTRA RRC connected mode.

3GPP TSG-RAN2 Meeting #27
Orlando, FL, USA, 18-23 Feb 2002

R2-020513

CR-Form-v

CHANGE REQUEST

⌘ **25.331** **CR** **1346** ⌘ **rev** **r1** ⌘ Current version: **3.9.0** ⌘

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

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

Title:	⌘	Correction to UE Id for DSCH
Source:	⌘	TSG-RAN WG2
Work item code:	⌘	TEI
Date:	⌘	21 Feb 2002
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)*

Reason for change: ⌘ According to the MAC specification (TS 25.321), the DSCH is a common transport channel and therefore it is specified that the U-RNTI is used only in DL for DCCH mapped on common transport channels. In the case of DTCH mapped on common transport channels including DSCH it is assumed that C-RNTI shall be used. However in RRC specification, the C-RNTI is not available in CELL_DCH. With the current specifications DSCH is not working.

Summary of change: ⌘ It is proposed to create a new 16 bits UE Id called DSCH-RNTI to be used for DSCH when UEs are in CELL_DCH. The handling of C-RNTI for RACH, FACH, CPCH for UEs in CELL_FACH will be left unchanged. This new IE is introduced in the DL RB control messages using the non-critical extension mechanism. The DSCH-RNTI is also introduced in TDD capacity request and shared channel allocation messages.

Isolated impact analysis:
Corrected functionality: DSCH handling

- « Correction to a function where the specification was :
  - Containing some contradictions.

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

Consequences if not approved: ⌘ DSCH does not work properly

Clauses affected: ⌘ 8.2.2.3, 8.2.7.3, 8.6.3.9a (new), 8.6.6.9, 8.6.6.10, 10.2.8, 10.2.22, 10.2.25, 10.2.26, 10.2.27, 10.2.30, 10.2.33, 10.2.50, 10.3.3.8a (new), 11.2, 11.3, 13.4.3a (new)

Other specs ⌘ **X** Other core specifications ⌘ 25.321, 25.401, 25.423

affected:	☐	25.331 v4.3.0, CR 1347
	☐ Test specifications	
	☐ O&M Specifications	
Other comments: ⌘		

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

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

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

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

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

The UE shall be able to receive any of the following messages:

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

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

If the UE receives:

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

it shall:

- set the variable ORDERED_RECONFIGURATION to TRUE;
- perform the physical layer synchronisation procedure as specified in [29];
- act upon all received information elements as specified in subclause 8.6, unless specified in the following and perform the actions below.

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

- in FDD, if the IE "PDSCH code mapping" is included but the IE "PDSCH with SHO DCH Info" is not included and if the DCH has only one link in its active set:
  - act upon the IE "PDSCH code mapping" as specified in subclause 8.6; and
  - infer that the PDSCH will be transmitted from the cell from which the downlink DPCH is transmitted.
- enter a state according to subclause 8.6.3.3.

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

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

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

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

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

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

- remove any DSCH-RNTI from MAC;
- clear the variable DSCH_RNTI.

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

- if the IE "Uplink DPCH Info" is absent, not change its current UL Physical channel configuration;
- if the IE "Downlink information for each radio link" is absent, not change its current DL Physical channel configuration.

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

- if the IE "Frequency info" is included in the received reconfiguration message:
  - select a suitable UTRA cell according to [4] on that frequency.
- if the IE "Frequency info" is not included in the received reconfiguration message:
  - select a suitable UTRA cell according to [4].
- if the received reconfiguration message included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selects another cell than indicated by this IE or the received reconfiguration message did not include the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD):
  - initiate a cell update procedure according to subclause 8.3.1 using the cause "Cell reselection";
  - when the cell update procedure completed successfully:
    - if the UE is in CELL_PCH or URA_PCH state:
      - initiate a cell update procedure according to subclause 8.3.1 using the cause "Uplink data transmission";
      - proceed as below.
- start timer T305 using its initial value if timer T305 is not running and if periodical update has been configured by T305 in the IE "UE Timers and constants in connected mode" set to any other value than "infinity" in system information block type 1;
- select PRACH according to subclause 8.5.17;
- select Secondary CCPCH according to subclause 8.5.19;
- use the transport format set given in system information;
- if the IE "UTRAN DRX cycle length coefficient" is included in the same message:
  - ignore that IE and stop using DRX.
- if the contents of the variable C_RNTI is empty:
  - perform a cell update procedure according to subclause 8.3.1 using the cause "Cell reselection";
  - when the cell update procedure completed successfully:
    - if the UE is in CELL_PCH or URA_PCH state:
      - initiate a cell update procedure according to subclause 8.3.1 using the cause "Uplink data transmission";
      - proceed as below.

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

- if the IE "Frequency info" is included in the received reconfiguration message:
  - select a suitable UTRA cell according to [4] on that frequency;
  - if the received reconfiguration message included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selected another cell than indicated by this IE or the received reconfiguration message did not include the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD):
    - initiate a cell update procedure according to subclause 8.3.1 using the cause "cell reselection";
    - when the cell update procedure completed successfully:
      - proceed as below.

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

- if the received reconfiguration message included the IE "Downlink counter synchronisation info":
  - re-establish RB2;
  - set the new uplink and downlink HFN of RB2 to MAX(uplink HFN of RB2 | downlink HFN of RB2) + 1;
  - increment by one the downlink and uplink HFN values for RB2;
  - calculate the START value according to subclause 8.5.9;
  - include the calculated START values for each CN domain in the IE "START list" in the IE "Uplink counter synchronisation info".
- if the received reconfiguration message did not include the IE "Downlink counter synchronisation info":
  - if the variable START_VALUE_TO_TRANSMIT is set:
    - include and set the IE "START" to the value of that variable.
  - if the variable START_VALUE_TO_TRANSMIT is not set and the IE "New U-RNTI" is included:
    - calculate the START value according to subclause 8.5.9;
    - include the calculated START values for each CN domain in the IE "START list" in the IE "Uplink counter synchronisation info".
- if the received reconfiguration message contained the IE "Ciphering mode info":
  - include and set the IE "Radio bearer uplink ciphering activation time info" to the value of the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO.
- if the received reconfiguration message contained the IE "Integrity protection mode info" with the IE "Integrity protection mode command" set to "Modify":
  - include and set the IE "Uplink integrity protection activation info" to the value of the variable INTEGRITY_PROTECTION_ACTIVATION_INFO.
- if the received reconfiguration message did not contain the IE "Ciphering activation time for DPCH" in IE "Ciphering mode info":
  - if prior to this procedure there exist no transparent mode RLC radio bearers:
    - if, at the conclusion of this procedure, the UE will be in CELL_DCH state; and
    - if, at the conclusion of this procedure, at least one transparent mode RLC radio bearer exists:
      - include the IE "COUNT-C activation time" and specify a CFN value for this IE.
  - if prior to this procedure there exists at least one transparent mode RLC radio bearer:

        - if, at the conclusion of this procedure, no transparent mode RLC radio bearers exist:

            - include the IE "COUNT-C activation time" and specify a CFN value for this IE.

- set the IE "RRC transaction identifier" to the value of "RRC transaction identifier" in the entry for the received message in the table "Accepted transactions" in the variable TRANSACTIONS; and
- clear that entry;
- if the variable PDCP_SN_INFO is not empty:
    - include the IE "RB with PDCP information list" and set it to the value of the variable PDCP_SN_INFO.
- in TDD, if the procedure is used to perform a handover to a cell where timing advance is enabled, and the UE can calculate the timing advance value in the new cell (i.e. in a synchronous TDD network):
    - set the IE "Uplink Timing Advance" according to subclause 8.6.6.26.
- if the IE "Integrity protection mode info" was present in the received reconfiguration message:
    - start applying the new integrity protection configuration in the uplink for signalling radio bearer RB2 from and including the transmitted response message.

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

- if the IE "Frequency info" is included in the received reconfiguration message:
    - select a suitable UTRA cell according to [4] on that frequency.
- if the IE "Frequency info" is not included in the received reconfiguration message:
    - select a suitable UTRA cell according to [4].
- prohibit periodical status transmission in RLC;
- remove any C-RNTI from MAC;
- clear the variable C_RNTI;
- start timer T305 using its initial value if timer T305 is not running and if periodical update has been configured by T305 in the IE "UE Timers and constants in connected mode" set to any other value than "infinity" in system information block type 1;
- select Secondary CCPCH according to subclause 8.5.19;
- if the IE "UTRAN DRX cycle length coefficient" is included in the same message:
    - use the value in the IE "UTRAN DRX Cycle length coefficient" for calculating Paging occasion and PICH Monitoring Occasion as specified in subclause 8.6.3.2.
- if the IE "UTRAN DRX cycle length coefficient" is not included in the same message:
    - set the variable INVALID_CONFIGURATION to TRUE.
- if the UE enters CELL_PCH state from CELL_DCH state, and the received reconfiguration message included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selected another cell than indicated by this IE or the received reconfiguration message did not include the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD):
    - initiate a cell update procedure according to subclause 8.3.1 using the cause "cell reselection";
    - when the cell update procedure completed successfully:
        - the procedure ends.

- if the UE enters CELL_PCH state from CELL_FACH state, and the received reconfiguration message included the IE "Primary CPICH info" (for FDD) or "Primary CCPCH info" (for TDD), and the UE selected another cell than indicated by this IE:
  - initiate a cell update procedure according to subclause 8.3.1 using the cause "cell reselection";
  - when the cell update procedure is successfully completed:
    - the procedure ends.
- if the UE enters URA_PCH state, and after cell selection the criteria for URA update caused by "URA reselection" according to subclause 8.3.1 is fulfilled:
  - initiate a URA update procedure according to subclause 8.3.1 using the cause "URA reselection";
  - when the URA update procedure is successfully completed:
    - the procedure ends.

8.2.7.3 Reception of a PHYSICAL SHARED CHANNEL ALLOCATION message by the UE

Upon reception of a "PHYSICAL SHARED CHANNEL ALLOCATION" message, if the message is received on the downlink SHCCH the UE shall:

- check the DSCH-RNTI~~C-RNTI~~ to see if the UE is addressed by the message;
- if the UE is addressed by the message, or if the message is received on the downlink DCCH:
  - perform the following actions.
- otherwise:
  - ignore the message.
- act upon all received information elements as specified in subclause 8.6, unless specified otherwise in the following:
- if the IE "ISCP Timeslot list" is included:
  - store the timeslot numbers given there for future Timeslot ISCP measurements and reports.
- if the IE "PDSCH capacity allocation info" is included:
  - configure the physical resources used for the downlink CCTrCH given by the IE "TFCS ID" according to the following:
    - if the CHOICE "Configuration" has the value "Old configuration":
      - if the UE has stored a PDSCH configuration with the identity given by the IE "PDSCH Identity":
        - configure the physical resources according to that configuration.
      - otherwise:
        - ignore the IE "PDSCH capacity allocation info".
    - if the CHOICE "Configuration" has the value "New configuration":
      - configure the physical resources according to the information given in IE "PDSCH Info". If IE "Common timeslot info" or IE "PDSCH timeslots and codes" IE are not present in IE "PDSCH Info":
        - reuse the configuration specified in the previous "PHYSICAL SHARED CHANNEL ALLOCATION" message for this CCTrCH.
      - if the IE "PDSCH Identity" is included:
        - store the new configuration using that identity.
  - start using the new configuration at the CFN specified by the IE "Allocation activation time", and use that for the duration given by the IE "Allocation duration";
  - if the IE "Confirm request" has the value "Confirm PDSCH" and IE "PDSCH Identity" is included in IE "PDSCH capacity allocation info":
    - initiate the PUSCH CAPACITY REQUEST procedure as described in subclause 8.2.8.
  - if the IE "PUSCH capacity allocation info" is included:
  - stop the timer T310, if running;
  - if the CHOICE "PUSCH allocation" has the value "PUSCH allocation pending":
    - start the timer T311.
  - if the CHOICE "PUSCH allocation" has the value "PUSCH allocation assignment":

- stop the timer T311, if running;
- configure the physical resources used for the uplink CCTrCH given by the IE "TFCS ID" according to the following:
  - if the CHOICE "Configuration" has the value "Old configuration":
    - if the UE has stored a PUSCH configuration with the identity given by the IE "PUSCH Identity":
      - configure the physical resources according to that configuration.
    - otherwise:
      - ignore the IE "PUSCH capacity allocation info".
  - if the CHOICE "Configuration" has the value "New configuration", the UE shall:
    - configure the physical resources according to the information given in IE "PUSCH Info". If IE "Common timeslot info" or IE "PUSCH timeslots and codes" is not present in IE "PUSCH Info":
      - reuse the configuration specified in the previous "PHYSICAL SHARED CHANNEL ALLOCATION" message for this CCTrCH.
    - if the IE "PUSCH Identity" is included:
      - store the new configuration using that identity.
  - start using the new configuration at the CFN specified by the IE "Allocation activation time", and use that for the duration given by the IE "Allocation duration";
  - if the IE "Traffic volume report request " is included:
    - initiate the PUSCH CAPACITY REQUEST procedure as described in subclause 8.2.8 at the time indicated by the IE "Traffic volume report request".
  - if the IE "Confirm request" has the value "Confirm PUSCH" and IE "PUSCH Identity" is included in IE "PUSCH capacity allocation info":
    - initiate the PUSCH CAPACITY REQUEST procedure as described in subclause 8.2.8.
- determine the TFCS subset and hence the TFCI values which are possible given the PUSCH allocation for that CCTrCH;
- configure the MAC-c/sh in the UE with this TFCS restriction if necessary;
- transmit USCH Transport Block Sets as required, within the TFCS limits given by the PUSCH allocation.

NOTE: If the UE has just entered a new cell and System Information Block Type 6has not yet been scheduled, PUSCH/PDSCH information should be specified in the allocation message.

The UE shall:

- clear the entry for the PHYSICAL SHARED CHANNEL ALLOCATION message in the table "Accepted transactions" in the variable TRANSACTIONS;
- and the procedure ends.

8.6.3.9 New C-RNTI

If the IE "New C-RNTI" is included, the UE shall:

- store the value in the variable C_RNTI, replacing any old stored value;
- use that C-RNTI when using common transport channels of type RACH, FACH and CPCH in the current cell.

8.6.3.9a New DSCH-RNTI

If the IE "New DSCH-RNTI" is included, the UE shall:

- In FDD, if the UE will be in CELL_DCH at the end of the procedure where the received message included this IE, and
- if the UE supports DSCH as indicated in the IE "Physical Channel Capability" included in the IE "UE Radio Access Cabability":
  - store the value in the variable DSCH_RNTI, replacing any old stored value;
  - use that DSCH-RNTI when using common transport channels of type DSCH in the current cell.
- In TDD, if the UE will be in CELL_DCH or CELL_FACH at the end of the procedure where the received message included this IE, and
- if the UE supports DSCH or USCH as indicated in the IE "Physical Channel Capability" included in the IE "UE Radio Access Cabability":
  - store the value in the variable DSCH_RNTI, replacing any old stored value;
  - use that DSCH-RNTI when using SHCCH signalling in the current cell.

8.6.6.9 PDSCH with SHO DCH Info (FDD only)

If the IE "PDSCH with SHO DCH Info" is included, the UE shall:

- if the variable DSCH_RNTI is empty:
  - set the variable INVALID_CONFIGURATION to TRUE;
- configure itself to receive the PDSCH from the specified radio link within the active set identified by the IE "DSCH radio link identifier";
- if the TFCI has a 'hard' split:
  - if the IE "TFCI(field2) combining set" is included:
    - configure the Layer 1 to combine soft only the DPCCH TFCI(field 2) of the radio links within the active set which are identified by the IE "Radio link identifier" in the IE "TFCI(field2) Combining set".
  - if the IE "TFCI(field2) combining set" is not included:
    - configure the L1 to combine soft the DPCCH TFCI(field 2) of all radio links within the active set.

8.6.6.10 PDSCH code mapping (FDD only)

If the IE "PDSCH code mapping" is included, the UE shall:

- if the variable DSCH_RNTI is empty:
  - set the variable INVALID_CONFIGURATION to TRUE;
- use the scrambling code defined by the IE "DL Scrambling Code" to receive the PDSCH;
- if the IE choice "signalling method" is set to 'code range':
  - map the TFCI(field2) values to PDSCH codes in the following way:
  - for the first group of the IE "PDSCH code mapping":
    - if the value of the IE "multi-code info" equals 1:
      - map the TFCI(field 2) = 0 to the PDSCH code specified by the IE "Spreading factor" and the code number given by the IE "Code number (for PDSCH code) start";
      - map TFCI(field 2) = 1 to the PDSCH code specified by the IE "Spreading factor" and the code number given by the IE "Code number (for PDSCH code) start"+1;
      - continue this process with unit increments in the value of TFCI(field 2) mapped to unit increments in code number until the code number equals the value of the IE "Code number (for PDSCH code) stop".
    - if the value of the IE "multi-code info" is greater than 1:
      - if the value of the difference between the IE "Code number (for PDSCH code) start" and the IE "Code number (for PDSCH code) stop" + 1 is not a multiple of the value of the IE "multi-code info":
        - set the variable INVALID_CONFIGURATION to TRUE.
      - map TFCI (field 2)=0 to a set of PDSCH contiguous codes. This code set is specified by the IE "Spreading factor" and code numbers between 'code number start' denoted by the IE "Code number (for PDSCH code) start" and 'code number stop' given by IE "Code number (for PDSCH code) start" - 1 + the value of the IE "multi-code info";
      - continue this process with unit increments in the value of TFCI(field 2) mapped to a set of contiguous codes. This code set is specified by the IE "Spreading factor" and code numbers between 'code number start' = 'code number stop' +1 of the previous TFCI(field2) and 'code number stop'='code number start' - 1 + the value of the IE "multi-code info";

        - stop this process when the 'code number stop' associated to the last TFCI(field2) equals the value of the IE "Code number (for PDSCH code) stop".

    - for each of the next groups included in the IE "PDSCH code mapping":

        - continue the process in the same way as for the first group with the TFCI(field 2) value used by the UE to construct its mapping table starting at the largest TFCI(field 2) value reached in the previous group plus one.

    - if the value of the IE "Code number (for PDSCH code) start" equals the value of the IE "Code number (for PDSCH code) stop" (as may occur when mapping the PDSCH root code to a TFCI (field 2) value):

        - consider this as defining the mapping between the channelisation code and a single TFCI (i.e., TFCI(field 2) shall not be incremented twice).

- if the IE choice "signalling method" is set to 'TFCI range':

    - map the TFCI(field2) values to PDSCH codes in the following way:

    - for the first group of the IE "DSCH mapping":

        - map each of the TFCI(field 2) between 0 and the value of the IE "Max TFCI(field2)" to the PDSCH code specified by the IE "Spreading factor (for PDSCH code)" and the code number given by the IE "Code number (for PDSCH code)".

    - for each of the next groups included in the IE "DSCH mapping":

        - map each of the TFCI(field 2) between the IE "Max TFCI(field2) value" specified in the last group plus one and the specified IE "Max TFCI(field2)" in the current group to the PDSCH code specified by the IE "Spreading factor (for PDSCH code)" and the code number given by the IE "Code number (for PDSCH code)".

    - if the value of the IE "multi-code info" is greater than 1:

        - map each value of TFCI (field 2) to a set of PDSCH contiguous codes starting at the channelisation code denoted by the 'code number' parameter and including all codes with code numbers up to and including 'code number' - 1 + the value of the IE "multi-code info".

- if the IE choice "signalling method" is set to 'Explicit'

    - map the TFCI(field2) values to PDSCH codes in the following way:

    - for the first instance on the IE "PDSCH code info":

        - apply the PDSCH code specified by the IE "Spreading factor (for PDSCH code)" and the code number given by the IE "Code number (for PDSCH code)" for TFCI(field2)=0.

    - for the second instance of the IE "PDSCH code info":

        - apply the PDSCH code specified by the IE "Spreading factor (for PDSCH code)" and the code number given by the IE "Code number (for PDSCH code)" for TFCI(field2)=1.

    - continue in a similar way for each next instance of the IE "PDSCH code info";

    - if the value of the IE "multi-code info" is greater than 1, then

        - map each value of TFCI (field 2) to a set of PDSCH contiguous codes starting at the channelisation code denoted by the 'code number' parameter and including all codes with code numbers up to and including 'code number' - 1 + the value of the IE "multi-code info".

- if the IE choice "signalling method" is set to 'Replace':

    - map the TFCI(field2) values to PDSCH codes in the following way:

    - for each instance of the IE "Replaced PDSCH code":

- replace the corresponding PDSCH code for the TFCI(field2) identified by the IE "TFCI(field2)" with the new code specified by the IE "Spreading factor (for PDSCH code)" and the code number given by the IE "Code number (for PDSCH code)".

- if the value of the IE "multi-code info" is greater than 1:

  - map each value of TFCI (field 2) to a set of PDSCH contiguous codes starting at the channelisation code denoted by the 'code number' parameter and including all codes with code numbers up to and including 'code number' - 1 + the value of the IE "multi-code info".

10.2.8 CELL UPDATE CONFIRM

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

RLC-SAP: UM

Logical channel: CCCH or DCCH

Direction: UTRAN→UE

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Message Type	MP		Message Type	
UE Information Elements				
U-RNTI	CV-*CCCH*		U-RNTI 10.3.3.47	
RRC transaction identifier	MP		RRC transaction identifier 10.3.3.36	
Integrity check info	CH		Integrity check info 10.3.3.16	
Integrity protection mode info	OP		Integrity protection mode info 10.3.3.19	
Ciphering mode info	OP		Ciphering mode info 10.3.3.5	
Activation time	MD		Activation time 10.3.3.1	Default value is "now"
New U-RNTI	OP		U-RNTI 10.3.3.47	
New C-RNTI	OP		C-RNTI 10.3.3.8	
New DSCH-RNTI	OP		DSCH-RNTI 10.3.3.8a	
RRC State Indicator	MP		RRC State Indicator 10.3.3.10	
UTRAN DRX cycle length coefficient	OP		UTRAN DRX cycle length coefficient 10.3.3.49	
RLC re-establish indicator (RB2, RB3 and RB4)	MP		RLC re-establish indicator 10.3.3.35	
RLC re-establish indicator (RB5 and upwards)	MP		RLC re-establish indicator 10.3.3.35	
CN Information Elements				
CN Information info	OP		CN Information info 10.3.1.3	
UTRAN Information Elements				
URA identity	OP		URA identity 10.3.2.6	
RB information elements				
RB information to release list	OP	1 to <maxRB>		
>RB information to release	MP		RB information	

Information Element/Group name	Need	Multi	Type and reference	Semantics description
			to release 10.3.4.19	
RB information to reconfigure list	OP	1 to <maxRB>		
>RB information to reconfigure	MP		RB information to reconfigure 10.3.4.18	
RB information to be affected list	OP	1 to <maxRB>		
>RB information to be affected	MP		RB information to be affected 10.3.4.17	
Downlink counter synchronisation info	OP			
>RB with PDCP information list	OP	1 to <maxRBallRABs>		This IE is needed for each RB having PDCP in the case of lossless SRNS relocation
>>RB with PDCP information	MP		RB with PDCP information 10.3.4.22	
TrCH Information Elements				
Uplink transport channels				
UL Transport channel information common for all transport channels	OP		UL Transport channel information common for all transport channels 10.3.5.24	
Deleted TrCH information list	OP	1 to <maxTrCH>		
>Deleted UL TrCH information	MP		Deleted UL TrCH information 10.3.5.5	
Added or Reconfigured TrCH information list	OP	1 to <maxTrCH>		
>Added or Reconfigured UL TrCH information	MP		Added or Reconfigured UL TrCH information 10.3.5.2	
CHOICE *mode*	MP			
>FDD				
>>CPCH set ID	OP		CPCH set ID 10.3.5.3	
>>Added or Reconfigured TrCH information for DRAC list	OP	1 to <maxTrCH>		
>>>DRAC static information	MP		DRAC static information 10.3.5.7	
>TDD				(no data)
Downlink transport channels				
DL Transport channel information common for all transport channels	OP		DL Transport channel information common for	

Information Element/Group name	Need	Multi	Type and reference	Semantics description
			all transport channels 10.3.5.6	
Deleted TrCH information list	OP	1 to <maxTrCH>		
>Deleted DL TrCH information	MP		Deleted DL TrCH information 10.3.5.4	
Added or Reconfigured TrCH information list	OP	1 to <maxTrCH>		
>Added or Reconfigured DL TrCH information	MP		Added or Reconfigured DL TrCH information 10.3.5.1	
PhyCH information elements				
Frequency info	MD		Frequency info 10.3.6.36	Default value is the existing value of frequency information
Uplink radio resources				
Maximum allowed UL TX power	MD		Maximum allowed UL TX power 10.3.6.39	Default value is the existing maximum UL TX power
CHOICE *channel requirement*	OP			
>Uplink DPCH info			Uplink DPCH info 10.3.6.88.	
>CPCH SET Info			CPCH SET Info 10.3.6.13	
Downlink radio resources				
CHOICE *mode*	MP			
>FDD				
>>Downlink PDSCH information	OP		Downlink PDSCH information 10.3.6.30	
>TDD				(no data)
Downlink information common for all radio links	OP		Downlink information common for all radio links 10.3.6.24	
Downlink information per radio link list	OP	1 to <maxRL>		Send downlink information for each radio link to be set-up
>Downlink information for each radio link	MP		Downlink information for each radio link 10.3.6.27	

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

10.2.22 PHYSICAL CHANNEL RECONFIGURATION

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

RLC-SAP: AM or UM

Logical channel: DCCH

Direction: UTRAN → UE

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Message Type	MP		Message Type	
UE Information Elements				
RRC transaction identifier	MP		RRC transaction identifier 10.3.3.36	
Integrity check info	CH		Integrity check info 10.3.3.16	
Integrity protection mode info	OP		Integrity protection mode info 10.3.3.19	
Ciphering mode info	OP		Ciphering mode info 10.3.3.5	
Activation time	MD		Activation time 10.3.3.1	Default value is "now"
New U-RNTI	OP		U-RNTI 10.3.3.47	
New C-RNTI	OP		C-RNTI 10.3.3.8	
New DSCH-RNTI	OP		DSCH-RNTI 10.3.3.8a	
RRC State Indicator	MP		RRC State Indicator 10.3.3.10	
UTRAN DRX cycle length coefficient	OP		UTRAN DRX cycle length coefficient 10.3.3.49	
CN Information Elements				
CN Information info	OP		CN Information info 10.3.1.3	
UTRAN mobility information elements				
URA identity	OP		URA identity 10.3.2.6	
RB information elements				
Downlink counter synchronisation info	OP			
>RB with PDCP information list	OP	1 to <maxRBallRABs>		This IE is needed for each RB having PDCP in the case of lossless SRNS relocation
>>RB with PDCP information	MP		RB with PDCP information 10.3.4.22	
PhyCH information elements				
Frequency info	MD		Frequency info 10.3.6.36	Default value is the existing value of frequency information
Uplink radio resources				

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Maximum allowed UL TX power	MD		Maximum allowed UL TX power 10.3.6.39	Default value is the existing value of the maximum allowed UL TX power
CHOICE *channel requirement*	OP			
>Uplink DPCH info			Uplink DPCH info 10.3.6.88	
>CPCH SET Info			CPCH SET Info 10.3.6.13	
>CPCH set ID			CPCH set ID 10.3.5.3	
Downlink radio resources				
CHOICE *mode*	MP			
>FDD				
>>Downlink PDSCH information	OP		Downlink PDSCH information 10.3.6.30	
>TDD				(no data)
Downlink information common for all radio links	OP		Downlink information common for all radio links 10.3.6.24	
Downlink information per radio link list	OP	1 to <maxRL>		Send downlink information for each radio link
>Downlink information for each radio link	MP		Downlink information for each radio link 10.3.6.27	

10.2.25 PHYSICAL SHARED CHANNEL ALLOCATION

NOTE: Only for TDD.

This message is used by UTRAN to assign physical resources to USCH/DSCH transport channels in TDD, for temporary usage by the UE.

RLC-SAP: UM on SHCCH, UM on DCCH

Logical channel: SHCCH or DCCH

Direction: UTRAN → UE

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Message Type	MP		Message type	
~~C~~DSCH-RNTI	OP		~~C~~ DSCH-RNTI 10.3.3.8a	
RRC transaction identifier	MP		RRC transaction identifier 10.3.3.36	
Uplink timing advance Control	MD		Uplink Timing Advance Control 10.3.6.96	Default value is the existing value for uplink timing advance
PUSCH capacity allocation info	OP		PUSCH Capacity Allocation info 10.3.6.64	
PDSCH capacity allocation info	OP		PDSCH Capacity Allocation info 10.3.6.42	
Confirm request	MD		Enumerated(No Confirm, Confirm PDSCH, Confirm PUSCH)	Default value is No Confirm
Traffic volume report request	OP		Integer (0 .. 255)	Indicates the number of frames between start of the allocation period and sending measurement report. The value should be less than the value for Allocation Duration.
ISCP Timeslot list	OP	1 to maxTS		
>Timeslot number	MP		Timeslot number 10.3.6.84	Timeslot numbers, for which the UE shall report the timeslot ISCP in PUSCH CAPACITY REQUEST message.
Request P-CCPCH RSCP	MP		Boolean	TRUE indicates that a Primary CCPCH RSCP measurement shall be reported by the UE in PUSCH CAPACITY REQUEST message.

10.2.26 PUSCH CAPACITY REQUEST

NOTE: Only for TDD.

This message is used by the UE for request of PUSCH resources to the UTRAN.

RLC-SAP: TM

Logical channel: SHCCH

Direction: UE → UTRAN

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Message Type	MP		Message Type	
~~C~~DSCH-RNTI	OP		~~C~~ DSCH-RNTI 10.3.3.8a	
RRC transaction identifier	CV-*ProtErr*		RRC transaction identifier 10.3.3.36	
Traffic Volume	OP		Traffic Volume, measured results list 10.3.7.67	
Timeslot list	OP	1 to maxTS		
>Timeslot number	MP		Timeslot number 10.3.6.84	
>Timeslot ISCP	MP		Timeslot ISCP info 10.3.7.65	
Primary CCPCH RSCP	OP		Primary CCPCH RSCP info 10.3.7.54	
CHOICE *Allocation confirmation*	OP			
>PDSCH Confirmation			Integer(1..hiPDSCHidentities)	
>PUSCH Confirmation			Integer(1..hiPUSCHidentities)	
Protocol error indicator	MD		Protocol error indicator 10.3.3.27	Default value is FALSE
Protocol error information	CV-*ProtErr*		Protocol error information 10.3.8.12	

Condition	Explanation
ProtErr	This IE is mandatory present if the IE "Protocol error indicator" has the value "TRUE". Otherwise it is not needed.

10.2.27 RADIO BEARER RECONFIGURATION

This message is sent from UTRAN to reconfigure parameters related to a change of QoS. This procedure can also change the multiplexing of MAC, reconfigure transport channels and physical channels.

RLC-SAP: AM or UM

Logical channel: DCCH

Direction: UTRAN → UE

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Message Type	MP		Message Type	
UE Information elements				
RRC transaction identifier	MP		RRC transaction identifier 10.3.3.36	
Integrity check info	CH		Integrity check info 10.3.3.16	
Integrity protection mode info	OP		Integrity protection mode info 10.3.3.19	
Ciphering mode info	OP		Ciphering mode info 10.3.3.5	
Activation time	MD		Activation time 10.3.3.1	Default value is "now"
New U-RNTI	OP		U-RNTI 10.3.3.47	
New C-RNTI	OP		C-RNTI 10.3.3.8	
New DSCH-RNTI	OP		DSCH-RNTI 10.3.3.8a	
RRC State Indicator	MP		RRC State Indicator 10.3.3.10	
UTRAN DRX cycle length coefficient	OP		UTRAN DRX cycle length coefficient 10.3.3.49	
CN information elements				
CN Information info	OP		CN Information info 10.3.1.3	
UTRAN mobility information elements				
URA identity	OP		URA identity 10.3.2.6	
RB information elements				
RAB information to reconfigure list	OP	1 to < maxRABsetup >		
>RAB information to reconfigure	MP		RAB information to reconfigure 10.3.4.11	
RB information to reconfigure list	MP	1to <maxRB>		Although this IE is not always required, need is MP to align with ASN.1
>RB information to reconfigure	MP		RB information	

Information Element/Group name	Need	Multi	Type and reference	Semantics description
			to reconfigure 10.3.4.18	
RB information to be affected list	OP	1 to <maxRB>		
>RB information to be affected	MP		RB information to be affected 10.3.4.17	
TrCH Information Elements				
Uplink transport channels				
UL Transport channel information common for all transport channels	OP		UL Transport channel information common for all transport channels 10.3.5.24	
Deleted TrCH information list	OP	1 to <maxTrCH>		
>Deleted UL TrCH information	MP		Deleted UL TrCH information 10.3.5.5	
Added or Reconfigured TrCH information list	OP	1 to <maxTrCH>		
>Added or Reconfigured UL TrCH information	MP		Added or Reconfigured UL TrCH information 10.3.5.2	
CHOICE *mode*	OP			
>FDD				
>>CPCH set ID	OP		CPCH set ID 10.3.5.3	
>>Added or Reconfigured TrCH information for DRAC list	OP	1 to <maxTrCH>		
>>>DRAC static information	MP		DRAC static information 10.3.5.7	
>TDD				(no data)
Downlink transport channels				
DL Transport channel information common for all transport channels	OP		DL Transport channel information common for all transport channels 10.3.5.6	
Deleted TrCH information list	OP	1 to <maxTrCH>		
>Deleted DL TrCH information	MP		Deleted DL TrCH information 10.3.5.4	
Added or Reconfigured TrCH information list	OP	1 to <maxTrCH>		
>Added or Reconfigured DL TrCH information	MP		Added or Reconfigure	

Information Element/Group name	Need	Multi	Type and reference	Semantics description
			d DL TrCH information 10.3.5.1	
PhyCH information elements				
Frequency info	MD		Frequency info 10.3.6.36	Default value is the existing value of frequency information
Uplink radio resources				
Maximum allowed UL TX power	MD		Maximum allowed UL TX power 10.3.6.39	Default value is the existing maximum UL TX power
CHOICE *channel requirement*	OP			
>Uplink DPCH info			Uplink DPCH info 10.3.6.88	
>CPCH SET Info			CPCH SET Info 10.3.6.13	
Downlink radio resources				
CHOICE *mode*	MP			
>FDD				
>>Downlink PDSCH information	OP		Downlink PDSCH information 10.3.6.30	
>TDD				(no data)
Downlink information common for all radio links	OP		Downlink information common for all radio links 10.3.6.24	
Downlink information per radio link list	MP	1 to <maxRL>		Although this IE is not always required, need is MP to align with ASN.1
>Downlink information for each radio link	MP		Downlink information for each radio link 10.3.6.27	

10.2.30 RADIO BEARER RELEASE

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

RLC-SAP: AM or UM

Logical channel: DCCH

Direction: UTRAN → UE

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Message Type	MP		Message Type	
UE Information Elements				
RRC transaction identifier	MP		RRC transaction identifier 10.3.3.36	
Integrity check info	CH		Integrity check info 10.3.3.16	
Integrity protection mode info	OP		Integrity protection mode info 10.3.3.19	
Ciphering mode info	OP		Ciphering mode info 10.3.3.5	
Activation time	MD		Activation time 10.3.3.1	Default value is "now"
New U-RNTI	OP		U-RNTI 10.3.3.47	
New C-RNTI	OP		C-RNTI 10.3.3.8	
New DSCH-RNTI	OP		DSCH-RNTI 10.3.3.8a	
RRC State Indicator	MP		RRC State Indicator 10.3.3.10	
UTRAN DRX cycle length coefficient	OP		UTRAN DRX cycle length coefficient 10.3.3.49	
CN Information Elements				
CN Information info	OP		CN Information info 10.3.1.3	
Signalling Connection release indication	OP		CN domain identity 10.3.1.1	
UTRAN mobility information elements				
URA identity	OP		URA identity 10.3.2.6	
RB Information Elements				
RAB information to reconfigure list	OP	1 to < maxRABsetup >		
>RAB information to reconfigure	MP		RAB information to reconfigure 10.3.4.11	

Information Element/Group name	Need	Multi	Type and reference	Semantics description
RB information to release list	MP	1 to <maxRB>		
>RB information to release	MP		RB information to release 10.3.4.19	
RB information to be affected list	OP	1 to <maxRB>		
>RB information to be affected	MP		RB information to be affected 10.3.4.17	
Downlink counter synchronisation info	OP			
>RB with PDCP information list	OP	1 to <maxRBallRABs>		This IE is needed for each RB having PDCP in the case of lossless SRNS relocation
>>RB with PDCP information	MP		RB with PDCP information 10.3.4.22	
TrCH Information Elements				
Uplink transport channels				
UL Transport channel information common for all transport channels	OP		UL Transport channel information common for all transport channels 10.3.5.24	
Deleted TrCH information list	OP	1 to <maxTrCH>		
>Deleted UL TrCH information	MP		Deleted UL TrCH information 10.3.5.5	
Added or Reconfigured TrCH information list	OP	1 to <maxTrCH>		
>Added or Reconfigured UL TrCH information	MP		Added or Reconfigured UL TrCH information 10.3.5.2	
CHOICE *mode*	OP			
>FDD				
>>CPCH set ID	OP		CPCH set ID 10.3.5.3	
>>Added or Reconfigured TrCH information for DRAC list	OP	1 to <maxTrCH>		
>>>DRAC static information	MP		DRAC static information 10.3.5.7	
>TDD				(no data)
Downlink transport channels				
DL Transport channel information common for all transport channels	OP		DL Transport channel information common for all transport channels 10.3.5.6	

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

10.2.33 RADIO BEARER SETUP

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

RLC-SAP: AM or UM

Logical channel: DCCH

Direction: UTRAN → UE

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Message Type	MP		Message Type	
UE Information Elements				
RRC transaction identifier	MP		RRC transaction identifier 10.3.3.36	
Integrity check info	CH		Integrity check info 10.3.3.16	
Integrity protection mode info	OP		Integrity protection mode info 10.3.3.19	
Ciphering mode info	OP		Ciphering mode info 10.3.3.5	
Activation time	MD		Activation time 10.3.3.1	Default value is "now"
New U-RNTI	OP		U-RNTI 10.3.3.47	
New C-RNTI	OP		C-RNTI 10.3.3.8	
New DSCH-RNTI	OP		DSCH-RNTI 10.3.3.8a	
RRC State Indicator	MP		RRC State Indicator 10.3.3.10	
UTRAN DRX cycle length coefficient	OP		UTRAN DRX cycle length coefficient 10.3.3.49	
CN Information Elements				
CN Information info	OP		CN Information info 10.3.1.3	
UTRAN mobility information elements				
URA identity	OP		URA identity 10.3.2.6	
RB Information Elements				
Signalling RB information to setup list	OP	1 to <maxSRBsetup>		For each signalling radio bearer established
>Signalling RB information to setup	MP		Signalling RB information to setup 10.3.4.24	
RAB information to setup list	OP	1 to <maxRABsetup>		For each RAB established
>RAB information for setup	MP		RAB information	

Information Element/Group name	Need	Multi	Type and reference	Semantics description
			for setup 10.3.4.10	
RB information to be affected list	OP	1 to <maxRB>		
>RB information to be affected	MP		RB information to be affected 10.3.4.17	
Downlink counter synchronisation info	OP			
>RB with PDCP information list	OP	1 to <maxRBallRABs>		This IE is needed for each RB having PDCP in the case of lossless SRNS relocation
>>RB with PDCP information	MP		RB with PDCP information 10.3.4.22	
TrCH Information Elements				
Uplink transport channels				
UL Transport channel information common for all transport channels	OP		UL Transport channel information common for all transport channels 10.3.5.24	
Deleted TrCH information list	OP	1 to <maxTrCH>		
>Deleted UL TrCH information	MP		Deleted UL TrCH information 10.3.5.5	
Added or Reconfigured TrCH information list	OP	1 to <maxTrCH>		
>Added or Reconfigured UL TrCH information	MP		Added or Reconfigured UL TrCH information 10.3.5.2	
CHOICE *mode*	OP			
>FDD				
>>CPCH set ID	OP		CPCH set ID 10.3.5.3	
>>Added or Reconfigured TrCH information for DRAC list	OP	1 to <maxTrCH>		
>>>DRAC static information	MP		DRAC static information 10.3.5.7	
>TDD				(no data)
Downlink transport channels				
DL Transport channel information common for all transport channels	OP		DL Transport channel information common for all transport channels10.3.5.6	
Deleted TrCH information list	OP	1 to <maxTrCH>		
>Deleted DL TrCH information	MP		Deleted DL	

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

10.2.50 TRANSPORT CHANNEL RECONFIGURATION

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

RLC-SAP: AM or UM

Logical channel: DCCH

Direction: UTRAN → UE

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Message Type	MP		Message Type	
UE Information Elements				
RRC transaction identifier	MP		RRC transaction identifier 10.3.3.36	
Integrity check info	CH		Integrity check info 10.3.3.16	
Integrity protection mode info	OP		Integrity protection mode info 10.3.3.19	
Ciphering mode info	OP		Ciphering mode info 10.3.3.5	
Activation time	MD		Activation time 10.3.3.1	Default value is "now"
New U-RNTI	OP		U-RNTI 10.3.3.47	
New C-RNTI	OP		C-RNTI 10.3.3.8	
New DSCH-RNTI	OP		DSCH-RNTI 10.3.3.8a	
RRC State Indicator	MP		RRC State Indicator 10.3.3.10	
UTRAN DRX cycle length coefficient	OP		UTRAN DRX cycle length coefficient 10.3.3.49	
CN Information Elements				
CN Information info	OP		CN Information info 10.3.1.3	
UTRAN mobility information elements				
URA identity	OP		URA identity 10.3.2.6	
RB information elements				
Downlink counter synchronisation info	OP			
>RB with PDCP information list	OP	1 to <maxRBallRABs>		This IE is needed for each RB having PDCP in the case of lossless SRNS relocation
>>RB with PDCP information	MP		RB with PDCP information 10.3.4.22	
TrCH Information Elements				
Uplink transport channels				
UL Transport channel	OP		UL Transport	

Information Element/Group name	Need	Multi	Type and reference	Semantics description
information common for all transport channels			channel information common for all transport channels 10.3.5.24	
Added or Reconfigured TrCH information list	OP	1 to <maxTrCH>		
>Added or Reconfigured UL TrCH information	MP		Added or Reconfigured UL TrCH information 10.3.5.2	
CHOICE *mode*	OP			
>FDD				
>>CPCH set ID	OP		CPCH set ID 10.3.5.3	
>>Added or Reconfigured TrCH information for DRAC list	OP	1 to <maxTrCH>		
>>>DRAC static information	MP		DRAC static information 10.3.5.7	
>TDD				(no data)
Downlink transport channels				
DL Transport channel information common for all transport channels	OP		DL Transport channel information common for all transport channels 10.3.5.6	
Added or Reconfigured TrCH information list	OP	1 to <maxTrCH>		
>Added or Reconfigured DL TrCH information	MP		Added or Reconfigured DL TrCH information 10.3.5.1	
PhyCH information elements				
Frequency info	MD		Frequency info 10.3.6.36	Default value is the existing value of frequency information
Uplink radio resources				
Maximum allowed UL TX power	MD		Maximum allowed UL TX power 10.3.6.39	Default value is the existing maximum UL TX power
CHOICE *channel requirement*	OP			
>Uplink DPCH info			Uplink DPCH info 10.3.6.88	
>CPCH SET Info			CPCH SET Info 10.3.6.13	
Downlink radio resources				
CHOICE *mode*	MP			
>FDD				
>>Downlink PDSCH information	OP		Downlink PDSCH information 10.3.6.30	
>TDD				(no data)

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Downlink information common for all radio links	OP		Downlink information common for all radio links 10.3.6.24	
Downlink information per radio link list	OP	1 to <maxRL>		Send downlink information for each radio link
>Downlink information for each radio link	MP		Downlink information for each radio link 10.3.6.27	

10.3.3.8 C-RNTI

The cell RNTI (C-RNTI) identifies an UE having a RRC connection within a cell.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
C-RNTI	MP		bit string(16)	

10.3.3.8a DSCH-RNTI

In FDD, ~~T~~the DSCH-RNTI identifies an UE in CELL_DCH using a DSCH within a cell. In TDD, the DSCH-RNTI identifies a UE in CELL_DCH or CELL_FACH using a DSCH or USCH within the cell.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
DSCH-RNTI	MP		bit string(16)	

11.2 PDU definitions

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

PDU-definitions DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

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

IMPORTS

-- Core Network IEs :
    CN-DomainIdentity,
    CN-InformationInfo,
    CN-InformationInfoFull,
    NAS-Message,
    PagingRecordTypeID,
-- UTRAN Mobility IEs :
    URA-Identity,
-- User Equipment IEs :
    ActivationTime,
    C-RNTI,
    CapabilityUpdateRequirement,
    CellUpdateCause,
    CipheringAlgorithm,
    CipheringModeInfo,
    DSCH-RNTI,


<. . .>


-- ************************************************
--
-- CELL UPDATE CONFIRM
--
-- ************************************************

CellUpdateConfirm ::= CHOICE {
    r3                              SEQUENCE {
        cellUpdateConfirm-r3            CellUpdateConfirm-r3-IEs,
        v3100nonCriticalExtensions          SEQUENCE {
            cellUpdateConfirm-v3100ext  CellUpdateConfirm-v3100ext,
            nonCriticalExtensions           SEQUENCE {}                     OPTIONAL
        }   OPTIONAL
    },
    later-than-r3                   SEQUENCE {
        rrc-TransactionIdentifier       RRC-TransactionIdentifier,
        criticalExtensions              SEQUENCE {}
    }
}

<. . . >

CellUpdateConfirm-v3100ext ::= SEQUENCE {
    new-DSCH-RNTI                       DSCH-RNTI                           OPTIONAL
}

<. . . >


-- ************************************************
--
```

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

PhysicalChannelReconfiguration ::= CHOICE {
    r3                              SEQUENCE {
        physicalChannelReconfiguration-r3
                                        PhysicalChannelReconfiguration-r3-IEs,
        v3100nonCriticalExtensions          SEQUENCE {
            physicalChannelReconfiguration-v3100ext
                                        PhysicalChannelReconfiguration-v3100ext,
            nonCriticalExtensions           SEQUENCE {}                     OPTIONAL
        }   OPTIONAL
    },
    later-than-r3                   SEQUENCE {
        rrc-TransactionIdentifier       RRC-TransactionIdentifier,
        criticalExtensions              SEQUENCE {}
    }
}

<. . . >

PhysicalChannelReconfiguration-v3100ext ::= SEQUENCE {
    new-DSCH-RNTI                       DSCH-RNTI                           OPTIONAL
}

<. . . >

-- ************************************************
--
-- PHYSICAL SHARED CHANNEL ALLOCATION (TDD only)
--
-- ************************************************

PhysicalSharedChannelAllocation ::= CHOICE {
    r3                              SEQUENCE {
        physicalSharedChannelAllocation-r3
                                        PhysicalSharedChannelAllocation-r3-IEs,
        nonCriticalExtensions           SEQUENCE {} OPTIONAL
    },
    later-than-r3                   SEQUENCE {
        rrc-TransactionIdentifier       RRC-TransactionIdentifier,
        criticalExtensions              SEQUENCE {}
    }
}

PhysicalSharedChannelAllocation-r3-IEs ::= SEQUENCE {
    -- TABULAR: Integrity protection shall not be performed on this message.
    -- User equipment IEs
        ~~edsch~~-RNTI                      ~~CDSCH~~-RNTI                          ~~OPTIONAL~~,
        rrc-TransactionIdentifier       RRC-TransactionIdentifier,
    -- Physical channel IEs
        ul-TimingAdvance                UL-TimingAdvanceControl             OPTIONAL,
        pusch-CapacityAllocationInfo    PUSCH-CapacityAllocationInfo        OPTIONAL,
        pdsch-CapacityAllocationInfo    PDSCH-CapacityAllocationInfo        OPTIONAL,
        confirmRequest                  ENUMERATED {
                                            confirmPDSCH, confirmPUSCH }    OPTIONAL,
        -- TABULAR: If the above value is not present, the default value "No Confirm"
        -- shall be used as specified in 10.2.25.
        trafficVolumeReportRequest      INTEGER (0..255)                    OPTIONAL,
        iscpTimeslotList                TimeslotList                        OPTIONAL,
        requestPCCPCHRSCP               BOOLEAN
}

-- ************************************************
--
-- PUSCH CAPACITY REQUEST (TDD only)
--
-- ************************************************

PUSCHCapacityRequest ::= SEQUENCE {
    -- User equipment IEs
        ~~edsch~~-RNTI                      ~~CDSCH~~-RNTI                          ~~OPTIONAL~~,
    -- Measurement IEs
        trafficVolume                   TrafficVolumeMeasuredResultsList    OPTIONAL,
        timeslotListWithISCP            TimeslotListWithISCP                OPTIONAL,
        primaryCCPCH-RSCP               PrimaryCCPCH-RSCP                   OPTIONAL,
        allocationConfirmation          CHOICE {
```

```
            pdschConfirmation               PDSCH-Identity,
            puschConfirmation               PUSCH-Identity
        }                                                                   OPTIONAL,
        protocolErrorIndicator          ProtocolErrorIndicatorWithMoreInfo,
    -- Extension mechanism for non- release99 information
        nonCriticalExtensions           SEQUENCE {} OPTIONAL
}

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

RadioBearerReconfiguration ::= CHOICE {
    r3                              SEQUENCE {
        radioBearerReconfiguration-r3   RadioBearerReconfiguration-r3-IEs,
        v3100nonCriticalExtensions          SEQUENCE {
            radioBearerReconfiguration-v3100ext     RadioBearerReconfiguration-v3100ext,
            nonCriticalExtensions                   SEQUENCE {}                     OPTIONAL
        }   OPTIONAL
    },
    later-than-r3                   SEQUENCE {
        rrc-TransactionIdentifier       RRC-TransactionIdentifier,
        criticalExtensions              SEQUENCE {}
    }
}

<. . . >

RadioBearerReconfiguration-v3100ext ::= SEQUENCE {
    new-DSCH-RNTI                       DSCH-RNTI                           OPTIONAL
}



<. . . >

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

RadioBearerRelease ::= CHOICE {
    r3                              SEQUENCE {
        radioBearerRelease-r3           RadioBearerRelease-r3-IEs,
        v3100nonCriticalExtensions          SEQUENCE {
            radioBearerRelease-v3100ext     RadioBearerRelease-v3100ext,
            nonCriticalExtensions           SEQUENCE {}                     OPTIONAL
        }   OPTIONAL
    },
    later-than-r3                   SEQUENCE {
        rrc-TransactionIdentifier       RRC-TransactionIdentifier,
        criticalExtensions              SEQUENCE {}
    }
}

<. . . >

RadioBearerRelease-v3100ext ::= SEQUENCE {
    new-DSCH-RNTI                       DSCH-RNTI                           OPTIONAL
}

<. . . >


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

RadioBearerSetup ::= CHOICE {
    r3                              SEQUENCE {
        radioBearerSetup-r3             RadioBearerSetup-r3-IEs,
        v3100nonCriticalExtensions          SEQUENCE {
```

```
            radioBearerSetup-v3100ext       RadioBearerSetup-v3100ext,
            nonCriticalExtensions           SEQUENCE {}                     OPTIONAL
        }   OPTIONAL
    },
    later-than-r3                   SEQUENCE {
        rrc-TransactionIdentifier       RRC-TransactionIdentifier,
        criticalExtensions              SEQUENCE {}
    }
}

<. . . >
RadioBearerSetup-v3100ext ::= SEQUENCE {
    new-DSCH-RNTI                       DSCH-RNTI                           OPTIONAL
}


<. . .>


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

TransportChannelReconfiguration ::= CHOICE {
    r3                              SEQUENCE {
        transportChannelReconfiguration-r3
                                        TransportChannelReconfiguration-r3-IEs,
        v3100nonCriticalExtensions          SEQUENCE {
            transportChannelReconfiguration-v3100ext
                                        TransportChannelReconfiguration-v310ext,
            nonCriticalExtensions       SEQUENCE {}                     OPTIONAL
        }       OPTIONAL
    },
    later-than-r3                   SEQUENCE {
        rrc-TransactionIdentifier       RRC-TransactionIdentifier,
        criticalExtensions              SEQUENCE {}
    }
}

TransportChannelReconfiguration-v310ext ::= SEQUENCE {
    new-DSCH-RNTI                       DSCH-RNTI                           OPTIONAL
}

<. . . >
```

11.3 Information element definitions

```
<. . .>

DRAC-SysInfoList ::=                SEQUENCE (SIZE (1..maxDRACclasses)) OF
                                        DRAC-SysInfo
DSCH-RNTI ::=                           BIT STRING (SIZE (16))
```

13.4.3 C_RNTI

This variable stores the assigned C-RNTI for this UE when in CELL_FACH state.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
C-RNTI	OP		C-RNTI 10.3.3.8	Cleared when entering UTRA RRC connected mode when not otherwise stated in the procedure. Cleared when leaving UTRA RRC connected mode.

13.4.3a DSCH_RNTI

This variable stores the assigned DSCH-RNTI for this UE when in CELL_DCH state.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
DSCH-RNTI	OP		DSCH-RNTI 10.3.3.8	Cleared when entering UTRA RRC connected mode when not otherwise stated in the procedure. Cleared when leaving UTRA RRC connected mode.

TSG-RAN Working Group 2 meeting #27 **R2-020512**
Orlando, USA, February 18 – February 22, 2002

CR-Form-v4

CHANGE REQUEST

⌘ **25.331 CR 1339** ⌘ ev **-** ⌘ Current version: **4.3.0** ⌘

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

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

Title:	⌘	Correction to IE "UL interference" for UTRA TDD
Source:	⌘	TSG-RAN WG2
Work item code:	⌘	TEI
Date:	⌘	02/21/2002
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)*

Reason for change: ⌘

The IE "UL interference", i.e. IBTS, is broadcast for all timeslots in SIB 14 or sent for a UE's active UL DPCH timeslots in the IE "UL DPCH Power Control info". IBTS is used by the UE in the UL for open loop power control setting of DPCH, RACH and PUSCH. The UL timeslot interference value is an integer in the range –110dBm…-70dBm. Unfortunately, the upper bound of –70dBm is not sufficient for 2 reasons:

- The expected UL interference level from an adjacent band UTRA FDD UL or even an adjacent band UTRA TDD could eventually require taking into account of UL interference values up to –65…-60dBm or slightly above.
- Some WG4 test cases (especially the critical UL Power Control test case in TS25.102) operate at IBTS values of -60dBm for all UL timeslots. However, the signaled IBTS value in SIB14 can currently not exceed –70dBm. The feasibility of these WG4 test cases is therefore compromised.

The broadcast UL interference value is primarily based upon the UL Timeslot ISCP or eventually the UTRA carrier RSSI measurement done in the Node B. The former has a reporting range up to –57dBm and the latter of up to –52dBm. Their upper bounds reflect more realistic assumptions on the expected UL interference and the broadcast UL interference value in SIB14 should be aligned with these reporting ranges.

Summary of change: ⌘

Signaling range for IE "UL interference" (10.3.6.87) changed from –110dBm…-70dBm to –110dBm…-52dBm.

Consequences if not approved: ⌘

UL power control functionality compromised in some expected TDD/FDD deployment scenarios. Several WG4 test cases (especially critical the UL power control test case) will not be feasible.

Isolated impact analysis:

Impacted functionality: Range of signalled UL Interference

	Correction to a function where the specification was found erroneous and contained contradictions. Would not affect implementations behaving like indicated in the CR, would affect implementations supporting the corrected functionality otherwise.

Clauses affected:	⌘	10.3.6.38, 10.3.6.87a (new), 10.3.6.92, 11		
Other specs affected:	⌘	- Other core specifications - Test specifications - O&M Specifications	⌘	25.331 v3.9.0, CR 1338r1
Other comments:	⌘	-		

10.3.6.38 Individual Timeslot interference

Parameters used by the UE for uplink open loop power control in TDD.

Information element	Need	Multi	Type and reference	Semantics description
Timeslot number	MP		Timeslot number 10.3.6.84	
UL Timeslot Interference	MP		TDD UL Interference 10.3.6.87a	

10.3.6.87a TDD UL interference

Information Element/Group name	Need	Multi	Type and reference	Semantics description
TDD UL interference	MP		Integer (-110..-52)	In dBm

NOTE: TDD only. This IE is a timeslot specific value.

10.3.6.92 Uplink DPCH power control info Post

Parameters used by UE to set DPCH initial output power and to use for closed-loop power control.

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
CHOICE *mode*	MP				
>FDD					
>>DPCCH Power offset	MP		Integer(-110..-50 by step of 4)	In dB	
>>PC Preamble	MP		Integer (0..7)	in number of frames	
>>PC Preamble	MP		Integer (0..7)	in number of frames	
>>SRB delay	MP		Integer (0..7)	In number of frames	
>>SRB delay	MP		Integer (0..7)	In number of frames	
>TDD					
>>UL target SIR	MP		Real (-11 ..	In dB	

Information Element/Group name	Need	Multi	Type and reference	Semantics description	Version
			20 by step of 0.5dB)		
>>CHOICE *TDD option*	MP				REL-4
>>>3.84 Mcps TDD					REL-4
>>>>UL Timeslot Interference	MP		TDD UL Interference 10.3.6.87a		
>>>1.28 Mcps TDD				(no data)	REL-4

Condition	Explanation
algo	The IE is mandatory present if the IE "Power Control Algorithm" is set to "algorithm 1", otherwise the IE is not needed

```
-- **************************************************
--
--     PHYSICAL CHANNEL INFORMATION ELEMENTS (10.3.6)
--
-- **************************************************

IndividualTS-Interference ::=       SEQUENCE {
    timeslot                            TimeslotNumber,
    ul-TimeslotInterference             TDD-UL-Interference
}



TDD-UL-InterferenceTDD ::=                  INTEGER (-110..-52)



UL-DPCH-PowerControlInfoPostTDD ::= SEQUENCE {
    ul-TargetSIR                        UL-TargetSIR,
    ul-TimeslotInterference             TDD-UL-Interference
}
```

TSG-RAN Working Group 2 meeting #27 **R2-020511**
Orlando, USA, February 18 – February 22, 2002

CR-Form-v4

CHANGE REQUEST

⌘ **25.331 CR 1338** ⌘ ev **r1** ⌘ Current version: **3.9.0** ⌘

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

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

Title:	⌘	Correction to IE "UL interference" for UTRA TDD
Source:	⌘	TSG-RAN WG2
Work item code:	⌘	TEI
Date:	⌘	02/21/2002
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)*

Reason for change: ⌘

The IE "UL interference", i.e. IBTS, is broadcast for all timeslots in SIB 14 or sent for a UE's active UL DPCH timeslots in the IE "UL DPCH Power Control info". IBTS is used by the UE in the UL for open loop power control setting of DPCH, RACH and PUSCH. The UL timeslot interference value is an integer in the range –110dBm…-70dBm. Unfortunately, the upper bound of –70dBm is not sufficient for 2 reasons:

- The expected UL interference level from an adjacent band UTRA FDD UL or even an adjacent band UTRA TDD could eventually require taking into account of UL interference values up to –65…-60dBm or slightly above.
- Some WG4 test cases (especially the critical UL Power Control test case in TS25.102) operate at IBTS values of -60dBm for all UL timeslots. However, the signaled IBTS value in SIB14 can currently not exceed –70dBm. The feasibility of these WG4 test cases is therefore compromised.

The broadcast UL interference value is primarily based upon the UL Timeslot ISCP or eventually the UTRA carrier RSSI measurement done in the Node B. The former has a reporting range up to –57dBm and the latter of up to –52dBm. Their upper bounds reflect more realistic assumptions on the expected UL interference and the broadcast UL interference value in SIB14 should be aligned with these reporting ranges.

Summary of change: ⌘

Signaling range for IE "UL interference" (10.3.6.87) changed from –110dBm…-70dBm to –110dBm…-52dBm.

Consequences if not approved: ⌘

UL power control functionality compromised in some expected TDD/FDD deployment scenarios. Several WG4 test cases (especially critical the UL power control test case) will not be feasible.

Isolated impact analysis:

Impacted functionality: Range of signalled UL Interference

	Correction to a function where the specification was found erroneous and contained contradictions. Would not affect implementations behaving like indicated in the CR, would affect implementations supporting the corrected functionality otherwise.

Clauses affected:	⌘	10.3.6.38, 10.3.6.87a (new), 10.3.6.92, 11			
Other specs affected:	⌘	-	Other core specifications	⌘	25.331 v4.3.0, CR 1339
		-	Test specifications		
		-	O&M Specifications		
Other comments:	⌘	-			

10.3.6.38 Individual Timeslot interference

Parameters used by the UE for uplink open loop power control in TDD.

Information element	Need	Multi	Type and reference	Semantics description
Timeslot number	MP		Timeslot number 10.3.6.84	
UL Timeslot Interference	MP		TDD UL Interference 10.3.6.87a	

10.3.6.87a TDD UL interference

Information Element/Group name	Need	Multi	Type and reference	Semantics description
TDD UL interference	MP		Integer (-110..-52)	In dBm

NOTE: TDD only. This IE is a timeslot specific value.

10.3.6.92 Uplink DPCH power control info Post

Parameters used by UE to set DPCH initial output power and to use for closed-loop power control.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
CHOICE *mode*	MP			
>FDD				
>>DPCCH Power offset	MP		Integer(-110..-50 by step of 4)	In dB
>>PC Preamble	MP		Integer (0..7)	in number of frames
>>SRB delay	MP		Integer (0..7)	In number of frames
>TDD				
>>UL target SIR	MP		Real (-11 .. 20 by step of 0.5dB)	In dB
>>UL Timeslot Interference	MP		TDD UL Interference 10.3.6.87a	

Condition	Explanation
algo	The IE is mandatory present if the IE "Power Control Algorithm" is set to "algorithm 1", otherwise the IE is not needed.

```
-- ************************************************
--
--     PHYSICAL CHANNEL INFORMATION ELEMENTS (10.3.6)
--
-- ************************************************

IndividualTS-Interference ::=       SEQUENCE {
    timeslot                            TimeslotNumber,
    ul-TimeslotInterference             TDD-UL-Interference
}



TDD-UL-InterferenceTDD ::=                  INTEGER (-110..-52)



UL-DPCH-PowerControlInfoPostTDD ::= SEQUENCE {
    ul-TargetSIR                        UL-TargetSIR,
    ul-TimeslotInterference             TDD-UL-Interference
}
```

3GPP TSG-RAN WG2 meeting #27
Orlando, FL, USA, Feb 18-22, 2002

Tdoc R2-020569

CR-Form-v5

CHANGE REQUEST

⌘ **25.331** **CR** **1337** ⌘ **rev** **-** ⌘ Current version: **4.3.0** ⌘

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

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

Title:	⌘	Retransmission of uplink direct transfer at RLC re-establishment and inter-RAT change
Source:	⌘	TSG-RAN WG2
Work item code:	⌘	TEI
Date:	⌘	2002-02-22
Category:	⌘	**A**
Release:	⌘	REL-4

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

Reason for change: ⌘

When RLC is re-established or upon inter-RAT handover from UTRAN, inter-RAT cell reselection from UTRAN or at inter-RAT cell change order from UTRAN, there may be unacknowledged uplink NAS direct transfer messages lost in RLC when the buffer is cleared.

TS 24.007, 11.2.3.2.3, says:

"Upper layer messages sent using the RR sub-layer transport service from the mobile station to the network can be duplicated by the data link layer in at least the following cases:

- in A/Gb mode, when a channel change of dedicated channels is required (assignment or handover procedure) and the last layer 2 frame has not been acknowledged by the peer data link layer before the mobile station leaves the old channel.

- in Iu mode, when an RLC re-establishment occurs (e.g. due to relocation) and the RLC layer has not acknowledged the last one or more RLC PDUs before RLC re-establishment

- an inter-system change from Iu mode to A/Gb mode is performed and the RLC layer has not acknowledged the last one or more RLC PDUs.

- an inter-system change from A/Gb mode to Iu mode is performed and the the last layer 2 frame in A/Gb mode has not been acknowledged by the peer data link layer before the mobile station leaves the old channel.

In these cases, the mobile station does not know whether the network has received the messages correctly. Therefore, the mobile station has to send the messages again when the channel change is completed."

There is a duplicate avoidance protocol (N(SD)) as part of upper layers specified in TS 24.007, which makes it possible to skip those NAS messages that were retransmitted and the duplicates were not detected by lower layers.

In case of GSM, the retransmission is triggered by RR using suspend/resume of layer 2 (see TS 04.18 3.1.4) and is not part of NAS. A retransmission of NAS messages is therefore necessary by RRC at RLC reestablishment and inter-system change. Even if the requirement is given implicitly by 24.007, it is strongly recommended that also the specification for the layer actually performing this function (RRC) contain the requirements on how and when to perform the

		retransmission.
Summary of change:	⌘	In the Initial direct transfer procedure, the point when the procedure ends is moved until after the sucessful delivery of the message has been confirmed by RLC. The point when confirmation of signalling connection establishment is made to upper layers is kept (to not re-introduce problems of receiving a downlink NAS message before this confirmation is given. The corresponding change is made for the Uplink direct transfer procedure. For the inter-RAT change procedures, is is stated that any non-confirmed NAS messages shall be retransmitted using the target radio access technology. **Impact analysis:** Impacted functionality: Initial direct transfer and Uplink direct transfer procedures when RLC re-establishment or inter-RAT change occurs. Correction: Clarified the specification according to a common understanding. Correction to a function where the specification was not sufficiently explicit. Would not impact an implementation behaving as indicated in the CR, would impact an implementation otherwise.
Consequences if not approved:	⌘	There is a risk that the UE will not retransmit NAS messages causing uplink NAS message loss at occasions like SRNS relocation and inter-RAT change.

Clauses affected:	⌘	8.1.8.2, 8.1.8.2a (new), 8.1.10.2, 8.1.10.2a (new), 8.3.7.4, 8.3.9.3		
Other specs affected:	⌘	☐ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	25.331 v3.9.0, CR 1336r2
Other comments:	⌘			

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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.

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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.

8.1.8.2 Initiation of Initial direct transfer procedure in the UE

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

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

- set the variable ESTABLISHMENT_CAUSE to the cause for establishment indicated by upper layers;
- perform an RRC connection establishment procedure, according to subclause 8.1.3;
- if the RRC connection establishment procedure was not successful:
  - indicate failure to establish the signalling connection to upper layers and end the procedure.
- when the RRC connection establishment procedure is completed successfully:
  - continue with the initial direct transfer procedure as below.

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

- perform a cell update procedure, according to subclause 8.3.1, using the cause "uplink data transmission";
- when the cell update procedure completed successfully:
  - continue with the initial direct transfer procedure as below.

The UE shall, in the INITIAL DIRECT TRANSFER message:

- set the IE "NAS message" as received from upper layers; and
- set the IE "CN domain identity" as indicated by the upper layers; and
- set the IE "Intra Domain NAS Node Selector" as follows:
  - derive the IE "Intra Domain NAS Node Selector" from TMSI/PMTSI, IMSI, or IMEI; and
  - provide the coding of the IE "Intra Domain NAS Node Selector" according to the following priorities:
    1. derive the routing parameter for IDNNS from TMSI (CS domain) or PTMSI (PS domain) whenever a valid TMSI/PTMSI is available;
    2. base the routing parameter for IDNNS on IMSI when no valid TMSI/PTMSI is available;
    3. base the routing parameter for IDNNS on IMEI only if no (U)SIM is inserted in the UE.

In CELL_FACH state, the UE shall:

- include a measurement report in the IE "Measured results on RACH", as specified in the IE "Intra-frequency reporting quantity for RACH reporting" and the IE "Maximum number of reported cells on RACH" in System Information Block type 12 (or "System Information Block Type 11" if "System Information Block Type 12" is not being broadcast);
- include in the IE "Measured results on RACH" all requested reporting quantities for cells for which measurements are reported.

The UE shall:

- transmit the INITIAL DIRECT TRANSFER message on the uplink DCCH using AM RLC on signalling radio bearer RB3;
- when the INITIAL DIRECT TRANSFER message has been submitted to lower layers for transmission:
  - confirm the establishment of a signalling connection to upper layers; and
  - add the signalling connection with the identity indicated by the IE "CN domain identity" in the variable ESTABLISHED_SIGNALLING_CONNECTIONS; and

~~- the procedure ends.~~

- when the successful delivery of the INITIAL DIRECT TRANSFER message has been confirmed by RLC:
  - the procedure ends.

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

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

8.1.8.2a RLC re-establishment or inter-RAT change

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

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

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

- retransmit the NAS message as specified in subclause 8.3.7.4.

8.1.8.3 Reception of INITIAL DIRECT TRANSFER message by the UTRAN

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

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

If the IE "Measured results on RACH" is present in the message, the UTRAN should extract the contents to be used for radio resource control.

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

8.1.10.2 Initiation of uplink direct transfer procedure in the UE

In the UE, the uplink direct transfer procedure shall be initiated when the upper layers request a transfer of a NAS message on an existing signalling connection. When not stated otherwise elsewhere, the UE may initiate the uplink direct transfer procedure when another procedure is ongoing, and in that case the state of the latter procedure shall not be affected.

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

- perform a cell update procedure, according to subclause 8.3.1, using the cause "uplink data transmission";
- when the cell update procedure has been completed successfully:
  - continue with the uplink direct transfer procedure as below.

The UE shall transmit the UPLINK DIRECT TRANSFER message on the uplink DCCH using AM RLC on signalling radio bearer RB3 or signalling radio bearer RB4. The UE shall:

- if upper layers indicate "low priority" for this message:
  - select signalling radio bearer RB4, if available. Specifically, for a GSM-MAP based CN, signalling radio bearer RB4 shall, if available, be selected when "SAPI 3" is requested;
  - select signalling radio bearer RB3 when signalling radio bearer RB4 is not available;
- if upper layers indicate "high priority" for this message:
  - select signalling radio bearer RB3. Specifically, for a GSM-MAP based CN, signalling radio bearer RB3 shall be selected when "SAPI 0" is requested.

In CELL_FACH state, the UE shall:

- include a measurement report in the IE "Measured results on RACH", as specified in the IE "Intra-frequency reporting quantity for RACH reporting" and the IE "Maximum number of reported cells on RACH" in System Information Block type 12 (or "System Information Block Type 11" if "System Information Block Type 12" is not being broadcast);
- include in the IE "Measured results on RACH" all requested reporting quantities for cells for which measurements are reported.

The UE shall set the IE "NAS message" as received from upper layers and set the IE "CN domain identity" as indicated by the upper layers.

When the sucessful delivery of the UPLINK DIRECT TRANSFER message has been ~~submitted to lower layers for transmission~~ confirmed by RLC the procedure ends.

8.1.10.2a RLC re-establishment or inter-RAT change

If signalling radio bearer RB n (where n equals to 3 or 4) was used when transmitting the UPLINK DIRECT TRANSFER message and a re-establishment of RLC on the same signalling radio bearer RB n occurs before the successful delivery of the UPLINK DIRECT TRANSFER message have been confirmed by RLC, the UE shall:

- retransmit the UPLINK DIRECT TRANSFER message on the uplink DCCH using AM RLC on signalling radio bearer RB n.

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

- retransmit the NAS message as specified in subclause 8.3.7.4.

8.1.10.3 Reception of UPLINK DIRECT TRANSFER message by the UTRAN

On reception of the UPLINK DIRECT TRANSFER message the NAS message should be routed using the value indicated in the IE "CN domain identity".

If the IE "Measured results on RACH" is present in the message, the UTRAN should extract the contents to be used for radio resource control.

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

8.3.7.4 Successful completion of the inter-RAT handover

Upon successfully completing the handover, UTRAN should:

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

Upon successfully completing the handover, the UE shall:

- if the USIM is present:
  - store the current START value for every CN domain in the USIM [50];
  - if the "START" stored in the USIM [50] for a CN domain is greater than or equal to the value "THRESHOLD" of the variable START_THRESHOLD:
    - delete the ciphering and integrity keys that are stored in the USIM for that CN domain;
    - inform the deletion of these keys to upper layers.
- if there are any NAS messages with the IE "CN domain identity" set to "CS domain" for which the sucessful delivery of the INITIAL DIRECT TRANSFER message or UPLINK DIRECT TRANSFER message on signalling radio bearer RB 3 or signalling radio bearer RB4 that have ~~has~~ not yet been confirmed by RLC:
  - retransmit those NAS messages to the network on the newly established radio connection to the target radio acces technology;
- clear or set variables upon leaving UTRA RRC connected mode as specified in subclause 13.4.

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

8.3.9.3 Successful cell reselection

When the UE has succeeded in reselecting a cell in the target radio access technology and has initiated the establishment of a connection, it shall:

- stop timer T309 and release all UTRAN specific resources.

UTRAN should release all UE dedicated resources upon indication that the UE has completed a connection establishment to the other radio access technology.

8.3.11.4 Successful completion of the cell change order

Upon successful completion of the cell change order, the UE shall:

- stop timer T309;
- clear or set variables upon leaving UTRA RRC connected mode as specified in subclause 13.4.

Upon indication of the UE having successfully completed the cell change order, UTRAN should:

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

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

3GPP TSG-RAN WG2 meeting #27
Orlando, FL, USA, Feb 18-22, 2002

Tdoc R2-020568

CR-Form-v5

CHANGE REQUEST

⌘ **25.331** **CR** **1336** ⌘ **rev** **r2** ⌘ Current version: **3.9.0** ⌘

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

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

Title:	⌘	Retransmission of uplink direct transfer at RLC re-establishment and inter-RAT change
Source:	⌘	TSG-RAN WG2
Work item code:	⌘	TEI
Date:	⌘	2002-02-22
Category:	⌘	**F**
Release:	⌘	R99

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Use one of the following releases:
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R96 *(Release 1996)*
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R98 *(Release 1998)*
R99 *(Release 1999)*
REL-4 *(Release 4)*
REL-5 *(Release 5)*

Reason for change: ⌘ When RLC is re-established or upon inter-RAT handover from UTRAN, inter-RAT cell reselection from UTRAN or at inter-RAT cell change order from UTRAN, there may be unacknowledged uplink NAS direct transfer messages lost in RLC when the buffer is cleared.

TS 24.007, 11.2.3.2.3, says:

"Upper layer messages sent using the RR sub-layer transport service from the mobile station to the network can be duplicated by the data link layer in at least the following cases:

- in A/Gb mode, when a channel change of dedicated channels is required (assignment or handover procedure) and the last layer 2 frame has not been acknowledged by the peer data link layer before the mobile station leaves the old channel.

- in Iu mode, when an RLC re-establishment occurs (e.g. due to relocation) and the RLC layer has not acknowledged the last one or more RLC PDUs before RLC re-establishment

- an inter-system change from Iu mode to A/Gb mode is performed and the RLC layer has not acknowledged the last one or more RLC PDUs.

- an inter-system change from A/Gb mode to Iu mode is performed and the the last layer 2 frame in A/Gb mode has not been acknowledged by the peer data link layer before the mobile station leaves the old channel.

In these cases, the mobile station does not know whether the network has received the messages correctly. Therefore, the mobile station has to send the messages again when the channel change is completed."

There is a duplicate avoidance protocol (N(SD)) as part of upper layers specified in TS 24.007, which makes it possible to skip those NAS messages that were retransmitted and the duplicates were not detected by lower layers.

In case of GSM, the retransmission is triggered by RR using suspend/resume of layer 2 (see TS 04.18 3.1.4) and is not part of NAS. A retransmission of NAS messages is therefore necessary by RRC at RLC reestablishment and inter-system change. Even if the requirement is given implicitly by 24.007, it is strongly recommended that also the specification for the layer actually performing this function (RRC) contain the requirements on how and when to perform the

	retransmission.
Summary of change: ⌘	In the Initial direct transfer procedure, the point when the procedure ends is moved until after the sucessful delivery of the message has been confirmed by RLC. The point when confirmation of signalling connection establishment is made to upper layers is kept (to not re-introduce problems of receiving a downlink NAS message before this confirmation is given. The corresponding change is made for the Uplink direct transfer procedure. For the inter-RAT change procedures, is is stated that any non-confirmed NAS messages shall be retransmitted using the target radio access technology. **Impact analysis:** Impacted functionality: Initial direct transfer and Uplink direct transfer procedures when RLC re-establishment or inter-RAT change occurs. Correction: Clarified the specification according to a common understanding. Correction to a function where the specification was not sufficiently explicit. Would not impact an implementation behaving as indicated in the CR, would impact an implementation otherwise.
Consequences if not approved: ⌘	There is a risk that the UE will not retransmit NAS messages causing uplink NAS message loss at occasions like SRNS relocation and inter-RAT change.

Clauses affected:	⌘	8.1.8.2, 8.1.8.2a (new), 8.1.10.2, 8.1.10.2a (new), 8.3.7.4, 8.3.9.3		
Other specs affected:	⌘	☐ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	25.331 v4.3.0, CR 1337
Other comments:	⌘	Changes compared to previous revisions are highlighted in blue		

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8.1.8.2 Initiation of Initial direct transfer procedure in the UE

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

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

- set the variable ESTABLISHMENT_CAUSE to the cause for establishment indicated by upper layers;
- perform an RRC connection establishment procedure, according to subclause 8.1.3;
- if the RRC connection establishment procedure was not successful:
  - indicate failure to establish the signalling connection to upper layers and end the procedure.
- when the RRC connection establishment procedure is completed successfully:
  - continue with the initial direct transfer procedure as below.

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

- perform a cell update procedure, according to subclause 8.3.1, using the cause "uplink data transmission";
- when the cell update procedure completed successfully:
  - continue with the initial direct transfer procedure as below.

The UE shall, in the INITIAL DIRECT TRANSFER message:

- set the IE "NAS message" as received from upper layers; and
- set the IE "CN domain identity" as indicated by the upper layers; and
- set the IE "Intra Domain NAS Node Selector" as follows:
  - derive the IE "Intra Domain NAS Node Selector" from TMSI/PMTSI, IMSI, or IMEI; and
  - provide the coding of the IE "Intra Domain NAS Node Selector" according to the following priorities:
    1. derive the routing parameter for IDNNS from TMSI (CS domain) or PTMSI (PS domain) whenever a valid TMSI/PTMSI is available;
    2. base the routing parameter for IDNNS on IMSI when no valid TMSI/PTMSI is available;
    3. base the routing parameter for IDNNS on IMEI only if no (U)SIM is inserted in the UE.

In CELL_FACH state, the UE shall:

- include a measurement report in the IE "Measured results on RACH", as specified in the IE "Intra-frequency reporting quantity for RACH reporting" and the IE "Maximum number of reported cells on RACH" in System Information Block type 12 (or "System Information Block Type 11" if "System Information Block Type 12" is not being broadcast);
- include in the IE "Measured results on RACH" all requested reporting quantities for cells for which measurements are reported.

The UE shall:

- transmit the INITIAL DIRECT TRANSFER message on the uplink DCCH using AM RLC on signalling radio bearer RB3;
- when the INITIAL DIRECT TRANSFER message has been submitted to lower layers for transmission:
  - confirm the establishment of a signalling connection to upper layers; and
  - add the signalling connection with the identity indicated by the IE "CN domain identity" in the variable ESTABLISHED_SIGNALLING_CONNECTIONS; and

- ~~the procedure ends.~~

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

  - the procedure ends.

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

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

8.1.8.2a RLC re-establishment or inter-RAT change

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

- retransmit the INITIAL DIRECT TRANSFER message on the uplink DCCH using AM RLC on signalling radio bearer RB3~~, without incrementing "Uplink RRC message sequence number" for signalling radio bearer RB3 in the variable INTEGRITY_PROTECTION_INFO~~.

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

- retransmit the NAS message as specified in subclause 8.3.7.4~~, 8.3.9.3 or 8.3.11.4, respectively~~.

8.1.8.3 Reception of INITIAL DIRECT TRANSFER message by the UTRAN

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

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

If the IE "Measured results on RACH" is present in the message, the UTRAN should extract the contents to be used for radio resource control.

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

8.1.10.2 Initiation of uplink direct transfer procedure in the UE

In the UE, the uplink direct transfer procedure shall be initiated when the upper layers request a transfer of a NAS message on an existing signalling connection. When not stated otherwise elsewhere, the UE may initiate the uplink direct transfer procedure when another procedure is ongoing, and in that case the state of the latter procedure shall not be affected.

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

- perform a cell update procedure, according to subclause 8.3.1, using the cause "uplink data transmission";
- when the cell update procedure has been completed successfully:
  - continue with the uplink direct transfer procedure as below.

The UE shall transmit the UPLINK DIRECT TRANSFER message on the uplink DCCH using AM RLC on signalling radio bearer RB3 or signalling radio bearer RB4. The UE shall:

- if upper layers indicate "low priority" for this message:
  - select signalling radio bearer RB4, if available. Specifically, for a GSM-MAP based CN, signalling radio bearer RB4 shall, if available, be selected when "SAPI 3" is requested;
  - select signalling radio bearer RB3 when signalling radio bearer RB4 is not available;
- if upper layers indicate "high priority" for this message:
  - select signalling radio bearer RB3. Specifically, for a GSM-MAP based CN, signalling radio bearer RB3 shall be selected when "SAPI 0" is requested.

In CELL_FACH state, the UE shall:

- include a measurement report in the IE "Measured results on RACH", as specified in the IE "Intra-frequency reporting quantity for RACH reporting" and the IE "Maximum number of reported cells on RACH" in System Information Block type 12 (or "System Information Block Type 11" if "System Information Block Type 12" is not being broadcast);
- include in the IE "Measured results on RACH" all requested reporting quantities for cells for which measurements are reported.

The UE shall set the IE "NAS message" as received from upper layers and set the IE "CN domain identity" as indicated by the upper layers.

When the sucessful delivery of the UPLINK DIRECT TRANSFER message has been ~~submitted to lower layers for transmission~~ confirmed by RLC the procedure ends.

8.1.10.2a RLC re-establishment or inter-RAT change

If signalling radio bearer RB n (where n equals to 3 or 4) was used when transmitting the UPLINK DIRECT TRANSFER message and a re-establishment of RLC on the same signalling radio bearer RB n occurs before the successful delivery of the UPLINK DIRECT TRANSFER message have been confirmed by RLC, the UE shall:

- retransmit the UPLINK DIRECT TRANSFER message on the uplink DCCH using AM RLC on signalling radio bearer RB n~~, without incrementing "Uplink RRC message sequence number" for signalling radio bearer RB n in the variable INTEGRITY_PROTECTION_INFO~~.

If an Inter-RAT handover from UTRAN procedure~~, an Inter-RAT cell reselection from UTRAN procedure, or a Cell change order from UTRAN procedure~~ occurs before the successful delivery of the UPLINK DIRECT TRANSFER message has been confirmed by RLC, for messages with the IE "CN domain identity" set to "CS domain", the UE shall

- retransmit the NAS message as specified in subclause 8.3.7.4~~, 8.3.9.3 or 8.3.11.4, respectively~~.

8.1.10.3 Reception of UPLINK DIRECT TRANSFER message by the UTRAN

On reception of the UPLINK DIRECT TRANSFER message the NAS message should be routed using the value indicated in the IE "CN domain identity".

If the IE "Measured results on RACH" is present in the message, the UTRAN should extract the contents to be used for radio resource control.

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

8.3.7.4 Successful completion of the inter-RAT handover

Upon successfully completing the handover, UTRAN should:

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

Upon successfully completing the handover, the UE shall:

- if the USIM is present:
  - store the current START value for every CN domain in the USIM [50];
  - if the "START" stored in the USIM [50] for a CN domain is greater than or equal to the value "THRESHOLD" of the variable START_THRESHOLD:
    - delete the ciphering and integrity keys that are stored in the USIM for that CN domain;
    - inform the deletion of these keys to upper layers.
- if there are any NAS messages with the IE "CN domain identity" set to "CS domain" for which the sucessful delivery of the INITIAL DIRECT TRANSFER message or UPLINK DIRECT TRANSFER message on signalling radio bearer RB 3 or signalling radio bearer RB4 that have ~~has~~ not yet been confirmed by RLC:
  - retransmit those NAS messages to the network on the newly established radio connection to the target radio acces technology;
- clear or set variables upon leaving UTRA RRC connected mode as specified in subclause 13.4.

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

8.3.9.3 Successful cell reselection

When the UE has succeeded in reselecting a cell in the target radio access technology and has initiated the establishment of a connection, it shall:

- stop timer T309 and release all UTRAN specific resources.

- ~~if there are any NAS messages for which the sucessful delivery of the INITIAL DIRECT TRANSFER message or UPLINK DIRECT TRANSFER message on signalling radio bearer RB 3 have not yet been confirmed by RLC:~~

  - ~~retransmit those NAS messages to the network on the newly established radio connection to the target radio acces technology:~~

UTRAN should release all UE dedicated resources upon indication that the UE has completed a connection establishment to the other radio access technology.

8.3.11.4 Successful completion of the cell change order

Upon successful completion of the cell change order, the UE shall:

- stop timer T309;

~~- if there are any NAS messages for which the sucessful delivery of the INITIAL DIRECT TRANSFER message or UPLINK DIRECT TRANSFER message on signalling radio bearer RB 3 have not yet been confirmed by RLC:~~

~~- retransmit those NAS messages to the network on the newly established radio connection to the target radio acces technology;~~

- clear or set variables upon leaving UTRA RRC connected mode as specified in subclause 13.4.

Upon indication of the UE having successfully completed the cell change order, UTRAN should:

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

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

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18th-22nd of February 2002, Orlando, FL, USA

Tdoc R2-020566

CR-Form-v4

CHANGE REQUEST

⌘ **25.331** **CR** **1333** ⌘ ev **-** ⌘ Current version: **4.3.0** ⌘

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

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

Title:	⌘	OTDOA assistance data
Source:	⌘	TSG-RAN WG2
Work item code:	⌘	TEI
Date:	⌘	18th of February 2002
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)*

Reason for change: ⌘ The 'SFN offset', defined now as a mandatory OTDOA assistance data field in IE 10.3.7.106 when the system utilizes IPDL, is not needed by UE for measuring SFN-SFN OTD as the channels used for synchronisation and measurements (SCH and CPICH, respectively) have no variations from frame to frame and hence all frames can be measured. On the other hand, it is difficult for the network side to provide this frame offset even if IPDLs are used unless a Location Measurement Unit (LMU) is placed at every base station site.

Isolated impact:

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

Summary of change: ⌘ 'SFN offset' in IE 10.3.7.106 is aligned with ASN.1.

If IPDL is not used, UE shall ignore IE 'SFN offset'.

Consequences if not approved: ⌘

Clauses affected: ⌘ 8.6.7.19.2, 8.6.7.19.2a, 10.3.7.106

Other specs Affected: ⌘
- [ ] Other core specifications ⌘ 25.331 v3.9.0, CR 1332
- [ ] Test specifications
- [ ] O&M Specifications

Other comments: ⌘

How to create CRs using this form:

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

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

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

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

8.6.7.19.2 UE positioning OTDOA assistance data for UE-assisted

If IE "UE positioning OTDOA reference cell info for UE-assisted" is received in System Information Block type 15.4 or in the MEASUREMENT CONTROL message, the UE shall update the variable UE_POSITIONING_OTDOA_DATA_UE_ASSISTED accordingly. The UE shall:

- store received cell information in the UE positioning reference cell info in the variable UE_POSITIONING_OTDOA_DATA_UE_ASSISTED, overwriting any existing information.

If IE "UE positioning OTDOA neighbour cell list for UE-assisted" is received in System Information Block type 15.4 or in the MEASUREMENT CONTROL message, the UE shall update the variable UE_POSITIONING_OTDOA_DATA_UE_ASSISTED accordingly. The UE shall:

- store received cell information in the neighbour cell info list in the variable UE_POSITIONING_OTDOA_DATA_UE_ASSISTED, overwriting any existing information.

If, according to its capabilities, UE does not support IPDLs and if IE "IPDL parameters" is received for the reference or any of the neighbour cells, the UE shall:

- ignore this IE.

If IE "IPDL parameters" is not included, the UE shall:

- ignore the IE "SFN offset".

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

- if IE "Positioning Methods" is set to "OTDOA" or "Cell ID":
  - if IE "UE positioning OTDOA reference cell info 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:
    - set the variable CONFIGURATION_INCOMPLETE to TRUE.
- if IE "Positioning Methods" is set to "OTDOA":
  - 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:
    - set the variable CONFIGURATION_INCOMPLETE to TRUE.

8.6.7.19.2a UE positioning OTDOA assistance data for UE-based

The UE shall:

- if IE "UE positioning OTDOA reference cell info for UE-based" is received in System Information Block type 15.5 or in the MEASUREMENT CONTROL message or in the ASSISTANCE DATA DELIVERY:
  - update the variable UE_POSITIONING_OTDOA_DATA_UE_BASED accordingly;
  - store received cell information in the UE positioning reference cell info for UE-based in the variable UE_POSITIONING_OTDOA_DATA_UE_BASED, overwriting any existing information.
- if IE "UE positioning OTDOA neighbour cell list for UE-based" is received in System Information Block type 15.5 or in the MEASUREMENT CONTROL message or in the ASSISTANCE DATA DELIVERY:
  - update the variable UE_POSITIONING_OTDOA_DATA_UE_BASED accordingly;
  - store received cell information in the neighbour cell info list for UE-based in the variable UE_POSITIONING_OTDOA_DATA_UE_BASED, overwriting any existing information.
- if, according to its capabilities, UE does not support IPDLs and if IE "IPDL parameters" is received for the reference or any of the neighbour cells::

- ignore this IE.

- if IE "IPDL parameters" is not included, the UE shall:

  - ignore the IE "SFN offset".

- if IE "UE positioning measurement" is received in the MEASUREMENT CONTROL message:

  - also perform the following consistency checks:

    - if IE "Positioning Methods" is set to "OTDOA":

      - if IE "UE positioning OTDOA reference cell info for UE-based" is not included and if UE positioning OTDOA reference cell info for UE-based in variable UE_POSITIONING_OTDOA_DATA_UE_BASED is empty:

        - set the variable CONFIGURATION_INCOMPLETE to TRUE.

    - if IE "Positioning Methods" is set to "OTDOA":

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

        - set the variable CONFIGURATION_INCOMPLETE to TRUE.

      - if IE "Method Type" is set to "UE based":

        - if IE "UE positioning OTDOA reference cell info for UE-based" is included and if IE "Cell Position" for the reference cell is not included:

          - set the variable CONFIGURATION_INCOMPLETE to TRUE.

        - if the IE "UE positioning OTDOA neighbour cell list for UE-based" is included and if cell position of less than two neighbour cells of the cells included in this IE and stored in variable UE_POSITIONING_OTDOA_DATA_UE_BASED are different and if those cell positions are not different to the one of the reference cell stored in variable UE_POSITIONING_OTDOA_DATA_UE_BASED:

          - set the variable CONFIGURATION_INCOMPLETE to TRUE.

        - if the IE "UE positioning OTDOA neighbouring cell list for UE-based " is included and only two neighbour cells are included or stored in variable UE_POSITIONING_OTDOA_DATA_UE_BASED and if the IE "Round Trip Time" is neither included for the neighbour cells nor for the reference cell info:

          - set the variable CONFIGURATION_INCOMPLETE to TRUE.

10.3.7.106 UE positioning OTDOA neighbour cell info

This IE gives approximate cell timing in order to decrease the search window.

Information Element/Group name	Need	Multi	Type and Reference	Semantics description
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
IPDL parameters	CV-*IPDLs*		UE positioning IPDL parameters 10.3.7.98	
SFN offset	~~CV-*IPDLs*~~MP		Integer (0 .. 4095)	Although this IE is not always required, need is MP to align with ASN.1. Define Tref as the time of beginning of system frame number SFNref of the reference cell. Define Tnc as the beginning of a frame from the neighbour cell occurring immediately after the time Tref. Let the corresponding system frame number be SFNnc. Then SFNnc = SFNref-SFN offset modulo 4096.
SFN-SFN relative time difference	MP		Integer(0.. 38399)	Gives the relative timing compared to the reference cell. Equal to $\lfloor$ (Tnc-Tref)*$\mathcal{U}$(3.84*10^6) $\rfloor$ where $\lfloor$ () $\rfloor$ denotes rounding to the nearest lower integer. in chips, Tnc = the time of beginning of a system frame from the neighbour cell, Tref = the time of beginning of a system frame from the reference cell.
SFN-SFN drift	OP		Integer (0, -1, -2, -3, -4, -5, -8, -10, -15, -25, -35, -50, -65, -80, -100, 1, 2, 3, 4, 5, 8, 10, 15, 25, 35, 50, 65, 80, 100)	in 1/256 chips per second
Search Window Size	MP		Integer(20, 40, 80, 160, 320, 640, 1280, infinity)	in chips. If the value is X then the expected SFN-SFN observed time difference is in the range [RTD-X, RTD+X] where RTD is the value of the field SFN-SFN relative time

Information Element/Group name	Need	Multi	Type and Reference	Semantics description
				difference. Infinity means that the uncertainty is larger than 1280 chips.
CHOICE *PositioningMode*	MP			
>UE based				(no data)
>UE assisted				(no data)

Condition	Explanation
IPDLs	This IE is mandatory present if IPDLs are applied and not needed otherwise.

3GPP TSG-RAN WG2 Meeting #27
18th-22nd of February 2002, Orlando, FL, USA

Tdoc R2-020565

CR-Form-v4

CHANGE REQUEST

⌘ **25.331** **CR** **1332** ⌘ ev **r2** ⌘ Current version: **3.9.0** ⌘

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

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

Title:	⌘	OTDOA assistance data
Source:	⌘	TSG-RAN WG2
Work item code:	⌘	TEI
Date:	⌘	18th of February 2002
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)*

Reason for change:	⌘	The 'SFN offset', defined now as a mandatory OTDOA assistance data field in IE 10.3.7.106 when the system utilizes IPDL, is not needed by UE for measuring SFN-SFN OTD as the channels used for synchronisation and measurements (SCH and CPICH, respectively) have no variations from frame to frame and hence all frames can be measured. On the other hand, it is difficult for the network side to provide this frame offset even if IPDLs are used unless a Location Measurement Unit (LMU) is placed at every base station site. Isolated impact analysis: Would not affect implementations behaving like indicated in the CR, would affect implementations supporting the corrected functionality otherwise.
Summary of change:	⌘	'SFN offset' in IE 10.3.7.106 is aligned with ASN.1. If IPDL is not used, UE shall ignore IE 'SFN offset'.
Consequences if not approved:	⌘	

Clauses affected:	⌘	8.6.7.19.2, 8.6.7.19.2a, 10.3.7.106		
Other specs Affected:	⌘	☐ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	25.331 v4.3.0, CR 1333
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.

8.6.7.19.2 UE positioning OTDOA assistance data for UE-assisted

If IE "UE positioning OTDOA reference cell info for UE-assisted" is received in System Information Block type 15.4 or in the MEASUREMENT CONTROL message, the UE shall update the variable UE_POSITIONING_OTDOA_DATA_UE_ASSISTED accordingly. The UE shall:

- store received cell information in the UE positioning reference cell info in the variable UE_POSITIONING_OTDOA_DATA_UE_ASSISTED, overwriting any existing information.

If IE "UE positioning OTDOA neighbour cell list for UE-assisted" is received in System Information Block type 15.4 or in the MEASUREMENT CONTROL message, the UE shall update the variable UE_POSITIONING_OTDOA_DATA_UE_ASSISTED accordingly. The UE shall:

- store received cell information in the neighbour cell info list in the variable UE_POSITIONING_OTDOA_DATA_UE_ASSISTED, overwriting any existing information.

If, according to its capabilities, UE does not support IPDLs and if IE "IPDL parameters" is received for the reference or any of the neighbour cells, the UE shall:

- ignore this IE.

If IE "IPDL parameters" is not included, the UE shall:

- ignore the IE "SFN offset".

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

- if IE "Positioning Methods" is set to "OTDOA" or "Cell ID":
  - if IE "UE positioning OTDOA reference cell info 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:
    - set the variable CONFIGURATION_INCOMPLETE to TRUE.
- if IE "Positioning Methods" is set to "OTDOA":
  - 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:
    - set the variable CONFIGURATION_INCOMPLETE to TRUE.

8.6.7.19.2a UE positioning OTDOA assistance data for UE-based

The UE shall:

- if IE "UE positioning OTDOA reference cell info for UE-based" is received in System Information Block type 15.5 or in the MEASUREMENT CONTROL message or in the ASSISTANCE DATA DELIVERY:
  - update the variable UE_POSITIONING_OTDOA_DATA_UE_BASED accordingly;
  - store received cell information in the UE positioning reference cell info for UE-based in the variable UE_POSITIONING_OTDOA_DATA_UE_BASED, overwriting any existing information.
- if IE "UE positioning OTDOA neighbour cell list for UE-based" is received in System Information Block type 15.5 or in the MEASUREMENT CONTROL message or in the ASSISTANCE DATA DELIVERY:
  - update the variable UE_POSITIONING_OTDOA_DATA_UE_BASED accordingly;
  - store received cell information in the neighbour cell info list for UE-based in the variable UE_POSITIONING_OTDOA_DATA_UE_BASED, overwriting any existing information.
- if, according to its capabilities, UE does not support IPDLs and if IE "IPDL parameters" is received for the reference or any of the neighbour cells:~~:~~

- ignore this IE.

- if IE "IPDL parameters" is not included, the UE shall:

  - ignore the IE "SFN offset".

- if IE "UE positioning measurement" is received in the MEASUREMENT CONTROL message:

  - also perform the following consistency checks:

    - if IE "Positioning Methods" is set to "OTDOA":

      - if IE "UE positioning OTDOA reference cell info for UE-based" is not included and if UE positioning OTDOA reference cell info for UE-based in variable UE_POSITIONING_OTDOA_DATA_UE_BASED is empty:

        - set the variable CONFIGURATION_INCOMPLETE to TRUE.

    - if IE "Positioning Methods" is set to "OTDOA":

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

        - set the variable CONFIGURATION_INCOMPLETE to TRUE.

      - if IE "Method Type" is set to "UE based":

        - if IE "UE positioning OTDOA reference cell info for UE-based" is included and if IE "Cell Position" for the reference cell is not included:

          - set the variable CONFIGURATION_INCOMPLETE to TRUE.

        - if the IE "UE positioning OTDOA neighbour cell list for UE-based" is included and if cell position of less than two neighbour cells of the cells included in this IE and stored in variable UE_POSITIONING_OTDOA_DATA_UE_BASED are different and if those cell positions are not different to the one of the reference cell stored in variable UE_POSITIONING_OTDOA_DATA_UE_BASED:

          - set the variable CONFIGURATION_INCOMPLETE to TRUE.

        - if the IE "UE positioning OTDOA neighbouring cell list for UE-based " is included and only two neighbour cells are included or stored in variable UE_POSITIONING_OTDOA_DATA_UE_BASED and if the IE "Round Trip Time" is neither included for the neighbour cells nor for the reference cell info:

          - set the variable CONFIGURATION_INCOMPLETE to TRUE.

10.3.7.106 UE positioning OTDOA neighbour cell info

This IE gives approximate cell timing in order to decrease the search window.

Information Element/Group name	Need	Multi	Type and Reference	Semantics description
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
IPDL parameters	CV-*IPDLs*		UE positioning IPDL parameters 10.3.7.98	
SFN offset	~~CV-*IPDLs*~~OPMP		Integer (0 .. 4095)	Although this IE is not always required, need is MP to align with ASN.1. Define Tref as the time of beginning of system frame number SFNref of the reference cell. Define Tnc as the beginning of a frame from the neighbour cell occurring immediately after the time Tref. Let the corresponding system frame number be SFNnc. Then SFNnc = SFNref-SFN offset modulo 4096.
SFN-SFN relative time difference	MP		Integer(0.. 38399)	Gives the relative timing compared to the reference cell. Equal to $\lfloor$ (Tnc-Tref)*I(3.84*10^6) $\rfloor$ where $\lfloor()\rfloor$ denotes rounding to the nearest lower integer. in chips, Tnc = the time of beginning of a system frame from the neighbour cell, Tref = the time of beginning of a system frame from the reference cell.
SFN-SFN drift	OP		Integer (0, -1, -2, -3, -4, -5, -8, -10, -15, -25, -35, -50, -65, -80, -100, 1, 2, 3, 4, 5, 8, 10, 15, 25, 35, 50, 65, 80, 100)	in 1/256 chips per second

Search Window Size	MP		Integer(20, 40, 80, 160, 320, 640, 1280, infinity)	In chips. If the value is X then the expected SFN-SFN observed time difference is in the range [RTD-X, RTD+X] where RTD is the value of the field SFN-SFN relative time difference. Infinity means that the uncertainty is larger than 1280 chips.
CHOICE *PositioningMode*	MP			
>UE based				(no data)
>UE assisted				(no data)

Condition	Explanation
IPDLs	This IE is mandatory present if IPDLs are applied and not needed otherwise.

11.3 Information element definitions

```
-- **************************************************
--
--     MEASUREMENT INFORMATION ELEMENTS (10.3.7)
--
-- **************************************************


SFN-SFN-RelTimeDifference1 ::=      SEQUENCE {
    sfn-Offset                          INTEGER (0 .. 4095),
    sfn-sfn-Reltimedifference           INTEGER (0.. 38399)
}

UE-Positioning-OTDOA-NeighbourCellInfo  ::= SEQUENCE {
    modeSpecificInfo    CHOICE  {
        fdd                             SEQUENCE {
            primaryCPICH-Info                   PrimaryCPICH-Info
        },
        tdd                             SEQUENCE{
            cellAndChannelIdentity              CellAndChannelIdentity
        }
    },
    frequencyInfo                       FrequencyInfo                       OPTIONAL,
    ue-positioning-IPDL-Paremeters                  UE-Positioning-IPDL-Parameters
    OPTIONAL,
    sfn-SFN-RelTimeDifference           SFN-SFN-RelTimeDifference1,
    sfn-SFN-Drift                       SFN-SFN-Drift       OPTIONAL,
    searchWindowSize                    OTDOA-SearchWindowSize,
    positioningMode CHOICE{
        ueBased                                 SEQUENCE {},
        ueAssisted                              SEQUENCE {}
    }
}

UE-Positioning-OTDOA-NeighbourCellInfo-UEB  ::= SEQUENCE {
    modeSpecificInfo    CHOICE  {
        fdd                             SEQUENCE {
            primaryCPICH-Info                   PrimaryCPICH-Info
        },
        tdd                             SEQUENCE{
            cellAndChannelIdentity              CellAndChannelIdentity
        }
    },
    frequencyInfo                       FrequencyInfo                       OPTIONAL,
    ue-positioning-IPDL-Paremeters      UE-Positioning-IPDL-Parameters      OPTIONAL,
    sfn-SFN-RelTimeDifference           SFN-SFN-RelTimeDifference1,
    sfn-SFN-Drift                       SFN-SFN-Drift                       OPTIONAL,
    searchWindowSize                    OTDOA-SearchWindowSize,
    relativeNorth                       INTEGER (-20000..20000)             OPTIONAL,
```

```
    relativeEast                        INTEGER (-20000..20000)             OPTIONAL,
    relativeAltitude                    INTEGER (-4000..4000)               OPTIONAL,
    fineSFN-SFN                         FineSFN-SFN,
    -- actual value = (IE value * 0.0625) + 876
    roundTripTime                       INTEGER (0.. 32766)                 OPTIONAL
}
```

TSG-RAN Working Group 2 Meeting #27
Orlando, FL, USA, February 18th to 22nd 2002

TSGR2#27(02)0502

CR-Form-v4

CHANGE REQUEST

⌘ **25.331** **CR** **1323** ⌘ rev **-** ⌘ Current version: **4.3.0** ⌘

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

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

Title:	⌘	Procedure Performance for TDD UL Physical Channel Control
Source:	⌘	TSG-RAN WG2
Work item code:	⌘	TEI
Date:	⌘	02-18-2002
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)*

Reason for change:	⌘	TDD UL physical channel control procedure performance not specified.
Summary of change:	⌘	TDD UL physical channel control procedure performance specified. The time required to execute modifications in UE is 80ms, inline with performance specified for physical channel reconfiguration. **Impact analysis:** Correction to a function where the specification was found ambiguous. Would not affect implementations behaving like indicated in the CR, would affect implementations supporting the corrected functionality otherwise.
Consequences if not approved:	⌘	Test cases for timing advance have no specified performance for adjustment. Ambiguous behaviour for timing advance adjustment.

Clauses affected:	⌘	13.5.2		
Other specs Affected:	⌘	☐ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	25.331 v3.9.0, CR 1322
Other comments:	⌘			

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

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

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

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

13.5.2 RRC procedure performance values

NOTE: Times indicated in the table do not include cell reselection.

Procedure title:	UTRAN -> UE	UE -> UTRAN	N1	N2	Notes
RRC Connection Management Procedures					
Broadcast of system information	SYSTEM INFORMATION				N2 is not applicable for any system information messages, because there is no response message from the UE.
Master Information Block	SYSTEM INFORMATION		5	NA	No system information data shall be lost due to processing of a MIB received with no detectable errors. This means that the UE shall buffer all system information data received after the MIB until the data can be processed according to the information in the MIB, unless the MIB was received erroneously.
System Information Block type 1	SYSTEM INFORMATION		10	NA	
System Information Block type 2	SYSTEM INFORMATION		10	NA	
System Information Block type 3	SYSTEM INFORMATION		10	NA	
System Information Block type 4	SYSTEM INFORMATION		10	NA	
System Information Block type 5	SYSTEM INFORMATION		10	NA	
System Information Block type 6	SYSTEM INFORMATION		10	NA	
System Information Block type 7	SYSTEM INFORMATION		5	NA	
System Information Block type 8	SYSTEM INFORMATION		10	NA	
System Information Block type 9	SYSTEM INFORMATION		5	NA	
System Information Block type 10	SYSTEM INFORMATION		5	NA	
System Information Block type 11	SYSTEM INFORMATION		10	NA	
System Information Block type 12	SYSTEM INFORMATION		10	NA	
System Information Block type 13	SYSTEM INFORMATION		10	NA	
System Information Block type 14	SYSTEM INFORMATION		10	NA	
System Information Block type 15	SYSTEM INFORMATION		10	NA	
System Information Block type 16	SYSTEM INFORMATION		10	NA	
System Information Block type 18	SYSTEM INFORMATION		10	NA	

Procedure title:	UTRAN -> UE	UE -> UTRAN	N1	N2	Notes
RRC connection establishment *Target state CELL_DCH*	RRC CONNECTION SETUP	RRC CONNECTION SETUP COMPLETE	10	NA	N1 measures time to the start of tx / rx on DPCH. N2 cannot be specified, because RRC CONNECTION SETUP COMPLETE message is transmitted only after physical layer synchronisation, which also depends on the Node B. The performance of the physical layer synchronisation procedure is specified in [19] and [20]
RRC connection establishment *Target state CELL_FACH*	RRC CONNECTION SETUP	RRC CONNECTION SETUP COMPLETE	10	11	N1 and N2 applicable as defined (N2 can be tested from the initiation of the power ramp on RACH).
RRC connection release *From CELL_DCH state*	RRC CONNECTION RELEASE	RRC CONNECTION RELEASE COMPLETE	5	8	N1 sets the requirement for the time from the completion of the last repetition of the RRC CONNECTION RELEASE COMPLETE message to the release of the physical channel. N2 sets the requirement from the end of successful reception of the RRC CONNECTION RELEASE message to the start of the first transmission of the RRC CONNECTION RELEASE COMPLETE message.
RRC connection release *From CELL_FACH state*	RRC CONNECTION RELEASE	RRC CONNECTION RELEASE COMPLETE	NA	11	N1 represents UE internal configuration that cannot be externally observed.
Paging	PAGING TYPE 1	CELL UPDATE	10	11+ T	T is the repetition period of SIB7 (applicable for FDD) and SIB14 (applicable for TDD)
UE capability enquiry	UE CAPABILITY ENQUIRY	UE CAPABILITY INFORMATION	NA	8	N1 is not applicable because the UE configuration does not change.
Security mode control	SECURITY MODE COMMAND	SECURITY MODE COMPLETE	5	8	
Signalling connection release procedure	SIGNALLING CONNECTION RELEASE		5	NA	N2 is not applicable because there is no response message.
Counter check	COUNTER CHECK	COUNTER CHECK RESPONSE	NA	8	N1 is not applicable because the UE configuration does not change.
Radio Bearer control procedures					
Radio bearer establishment *Target state CELL_DCH*	RADIO BEARER SETUP	RADIO BEARER SETUP COMPLETE / FAILURE	10	NA	N2 cannot be specified, because the RADIO BEARER SETUP COMPLETE / FAILURE message is transmitted only after physical layer synchronisation, which depends also on Node B.
Radio bearer establishment *From state CELL_FACH to state CELL_FACH*	RADIO BEARER SETUP	RADIO BEARER SETUP COMPLETE / FAILURE	10	11	

Procedure title:	UTRAN -> UE	UE -> UTRAN	N1	N2	Notes
Radio bearer establishment *From CELL_DCH to CELL_FACH*	RADIO BEARER SETUP	RADIO BEARER SETUP COMPLETE	NA	NA	N1 and N2 cannot be specified, because UE need to read SIBs on BCH before sending RADIO BEARER SETUP COMPLETE
Radio bearer reconfiguration *Target state CELL_DCH*	RADIO BEARER RECONFIGURATION	RADIO BEARER RECONFIGURATION COMPLETE / FAILURE	10	NA	N2 cannot be specified, because the RADIO BEARER RECONFIGURATION COMPLETE / FAILURE message is transmitted only after physical layer synchronisation, which depends also on Node B.
Radio bearer reconfiguration *From state CELL_FACH to state CELL_FACH*	RADIO BEARER RECONFIGURATION	RADIO BEARER RECONFIGURATION COMPLETE / FAILURE	10	11	
Radio bearer reconfiguration *From state CELL_DCH to state CELL_FACH*	RADIO BEARER RECONFIGURATION	RADIO BEARER RECONFIGURATION COMPLETE	NA	NA	N1 and N2 cannot be specified, because UE need to read SIBs on BCH before sending RADIO BEARER RECONFIGURATION COMPLETE
Radio bearer release *Target state CELL_DCH*	RADIO BEARER RELEASE	RADIO BEARER RELEASE COMPLETE / FAILURE	10	11	
Radio bearer release *From state CELL_FACH to state CELL_FACH*	RADIO BEARER RELEASE	RADIO BEARER RELEASE COMPLETE / FAILURE	10	11	
Radio bearer release *From state CELL_DCH to state CELL_FACH*	RADIO BEARER RELEASE	RADIO BEARER RELEASE COMPLETE	NA	NA	N1 and N2 cannot be specified, because UE need to read SIBs on BCH before sending RADIO BEARER RECONFIGURATION COMPLETE
Transport channel reconfiguration *Target state CELL_DCH*	TRANSPORT CHANNEL RECONFIGURATION	TRANSPORT CHANNEL RECONFIGURATION COMPLETE / FAILURE	10	NA	N2 cannot be specified, because the TRANSPORT CHANNEL RECONFIGURATION COMPLETE / FAILURE message is transmitted only after physical layer synchronisation, which depends also on Node B.
Transport channel reconfiguration *From state CELL_FACH to state CELL_FACH*	TRANSPORT CHANNEL RECONFIGURATION	TRANSPORT CHANNEL RECONFIGURATION COMPLETE / FAILURE	10	11	
Transport channel reconfiguration *From state CELL_DCH to state CELL_FACH*	TRANSPORT CHANNEL RECONFIGURATION	TRANSPORT CHANNEL RECONFIGURATION COMPLETE	NA	NA	N1 and N2 cannot be specified, because UE need to read SIBs on BCH before sending TRANSPORT CHANNEL RECONFIGURATION COMPLETE
Transport format combination control *AM or UM RLC mode*	TRANSPORT FORMAT COMBINATION CONTROL	TRANSPORT FORMAT COMBINATION CONTROL FAILURE	5	8	

Procedure title:	UTRAN -> UE	UE -> UTRAN	N1	N2	Notes
Transport format combination control *Transparent mode*	TRANSPORT FORMAT COMBINATION CONTROL		5	NA	N2 is not applicable because no response message is defined.
Physical channel reconfiguration *Target state CELL_DCH*	PHYSICAL CHANNEL RECONFIGURATION	PHYSICAL CHANNEL RECONFIGURATION COMPLETE / FAILURE	8	NA	N2 cannot be specified, because the PHYSICAL CHANNEL RECONFIGURATION COMPLETE / FAILURE message is transmitted only after physical layer synchronisation, which depends also on Node B.
Physical channel reconfiguration *From state CELL_FACH to state CELL_FACH*	PHYSICAL CHANNEL RECONFIGURATION	PHYSICAL CHANNEL RECONFIGURATION COMPLETE / FAILURE	8	9	
Physical channel reconfiguration *From state CELL_DCH to state CELL_FACH*	PHYSICAL CHANNEL RECONFIGURATION	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	NA	NA	N1 and N2 cannot be specified, because UE need to read SIBs on BCH before sending PHYSICAL CHANNEL RECONFIGURATION COMPLETE
Physical Shared Channel Allocation [TDD only]	PHYSICAL SHARED CHANNEL ALLOCATION		5	NA	N2 is not applicable because no response message is defined.
Uplink Physical Channel Control [TDD only]	UPLINK PHYSICAL CHANNEL CONTROL		8~~NA~~	NA	Requirements for outer loop and timing advance adjustments are defined in [22] and [20]. N2 is not applicable because there is no response message.
RRC connection mobility procedures					
Cell update	CELL UPDATE CONFIRM	UTRAN MOBILITY INFORMATION CONFIRM	5	8	
		PHYSICAL CHANNEL RECONFIGURATION COMPLETE *Target state CELL_FACH*	8	9	
		PHYSICAL CHANNEL RECONFIGURATION COMPLETE *Target state CELL_DCH*	8	NA	N2 cannot be specified, because the PHYSICAL CHANNEL RECONFIGURATION COMPLETE / FAILURE message is transmitted only after physical layer synchronisation, which depends also on Node B.
		TRANSPORT CHANNEL RECONFIGURATION COMPLETE *Target state CELL_FACH*	10	11	

Procedure title:	UTRAN -> UE	UE -> UTRAN	N1	N2	Notes
		TRANSPORT CHANNEL RECONFIGURATION COMPLETE *Target state CELL_DCH*	10	NA	N2 cannot be specified, because the PHYSICAL CHANNEL RECONFIGURATION COMPLETE / FAILURE message is transmitted only after physical layer synchronisation, which depends also on Node B.
		RADIO BEARER RECONFIGURATION COMPLETE *Target state CELL_FACH*	10	11	
		RADIO BEARER RECONFIGURATION COMPLETE *Target state CELL_DCH*	10	NA	N2 cannot be specified, because the PHYSICAL CHANNEL RECONFIGURATION COMPLETE / FAILURE message is transmitted only after physical layer synchronisation, which depends also on Node B.
		RADIO BEARER RELEASE COMPLETE *Target state CELL_DCH*	10	11	
URA update	URA UPDATE CONFIRM	UTRAN MOBILITY INFORMATION CONFIRM	5	8	
UTRAN mobility information	UTRAN MOBILITY INFORMATION	UTRAN MOBILITY INFORMATION CONFIRM / FAILURE	5	8	
Active set update	ACTIVE SET UPDATE	ACTIVE SET UPDATE COMPLETE / FAILURE	NA	8	The requirements on UE combining and power control performance for both UL and DL are specified by RAN WG4 in [21] and [19]. Also in case of branch addition the COMPLETE / FAILURE message is transmitted without waiting for the new branch to stabilise, therefore N2 is specified.
Inter-RAT handover to UTRAN	HANDOVER TO UTRAN COMMAND (other system)	HANDOVER TO UTRAN COMPLETE	NA	NA	The performance of this procedure is specified in 05.10.
Inter-RAT handover from UTRAN	HANDOVER FROM UTRAN COMMAND	HANDOVER FROM UTRAN FAILURE	NA	NA	The performance of this procedure is specified in [19] and [20].
Measurement procedures					
Measurement control	MEASUREMENT CONTROL	MEASUREMENT CONTROL FAILURE	5	8	Response to measurement inquiry depends on physical layer measurement. Response time is defined in [19] and [20]. N1 and N2 only define the processing of the message.

TSG-RAN Working Group 2 Meeting #27
Orlando, FL, USA, February 18th to 22nd 2002

TSGR2#27(02)0344

CR-Form-v4

CHANGE REQUEST

⌘ **25.331** **CR** **1322** ⌘ rev **-** ⌘ Current version: **3.9.0** ⌘

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

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

Title:	⌘	Procedure Performance for TDD UL Physical Channel Control
Source:	⌘	TSG-RAN WG2
Work item code:	⌘	TEI
Date:	⌘	02-10-02
Category:	⌘	**F**
Release:	⌘	R99

Use one of the following categories:
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A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
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R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
REL-4 (Release 4)
REL-5 (Release 5)

Reason for change:	⌘	TDD UL physical channel control procedure performance not specified.
Summary of change:	⌘	TDD UL physical channel control procedure performance specified. The time required to execute modifications in UE is 80ms, inline with performance specified for physical channel reconfiguration. **Impact analysis:** Correction to a function where the specification was found ambiguous. Would not affect implementations behaving like indicated in the CR, would affect implementations supporting the corrected functionality otherwise.
Consequences if not approved:	⌘	Test cases for timing advance have no specified performance for adjustment. Ambiguous behaviour for timing advance adjustment.

Clauses affected:	⌘	13.5.2		
Other specs Affected:	⌘	☐ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	25.331 v4.3.0, CR 1323
Other comments:	⌘			

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13.5.2 RRC procedure performance values

NOTE: Times indicated in the table do not include cell reselection.

Procedure title:	UTRAN -> UE	UE -> UTRAN	N1	N2	Notes
RRC Connection Management Procedures					
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Master Information Block	SYSTEM INFORMATION		5	NA	No system information data shall be lost due to processing of a MIB received with no detectable errors. This means that the UE shall buffer all system information data received after the MIB until the data can be processed according to the information in the MIB, unless the MIB was received erroneously.
System Information Block type 1	SYSTEM INFORMATION		10	NA	
System Information Block type 2	SYSTEM INFORMATION		10	NA	
System Information Block type 3	SYSTEM INFORMATION		10	NA	
System Information Block type 4	SYSTEM INFORMATION		10	NA	
System Information Block type 5	SYSTEM INFORMATION		10	NA	
System Information Block type 6	SYSTEM INFORMATION		10	NA	
System Information Block type 7	SYSTEM INFORMATION		5	NA	
System Information Block type 8	SYSTEM INFORMATION		10	NA	
System Information Block type 9	SYSTEM INFORMATION		5	NA	
System Information Block type 10	SYSTEM INFORMATION		5	NA	
System Information Block type 11	SYSTEM INFORMATION		10	NA	
System Information Block type 12	SYSTEM INFORMATION		10	NA	
System Information Block type 13	SYSTEM INFORMATION		10	NA	
System Information Block type 14	SYSTEM INFORMATION		10	NA	
System Information Block type 15	SYSTEM INFORMATION		10	NA	
System Information Block type 16	SYSTEM INFORMATION		10	NA	
System Information Block type 18	SYSTEM INFORMATION		10	NA	
RRC connection establishment *Target state CELL_DCH*	RRC CONNECTION SETUP	RRC CONNECTION SETUP COMPLETE	10	NA	N1 measures time to the start of tx / rx on DPCH. N2 cannot be specified, because RRC CONNECTION SETUP COMPLETE message is transmitted only after physical layer synchronisation, which also depends on the Node B. The performance of the physical layer synchronisation procedure is specified in [19] and [20]

Procedure title:	UTRAN -> UE	UE -> UTRAN	N1	N2	Notes
RRC connection establishment *Target state CELL_FACH*	RRC CONNECTION SETUP	RRC CONNECTION SETUP COMPLETE	10	11	N1 and N2 applicable as defined (N2 can be tested from the initiation of the power ramp on RACH).
RRC connection release *From CELL_DCH state*	RRC CONNECTION RELEASE	RRC CONNECTION RELEASE COMPLETE	5	8	N1 sets the requirement for the time from the completion of the last repetition of the RRC CONNECTION RELEASE COMPLETE message to the release of the physical channel. N2 sets the requirement from the end of successful reception of the RRC CONNECTION RELEASE message to the start of the first transmission of the RRC CONNECTION RELEASE COMPLETE message.
RRC connection release *From CELL_FACH state*	RRC CONNECTION RELEASE	RRC CONNECTION RELEASE COMPLETE	NA	11	N1 represents UE internal configuration that cannot be externally observed.
Paging	PAGING TYPE 1	CELL UPDATE	10	11+ T	T is the repetition period of SIB7 (applicable for FDD) and SIB14 (applicable for TDD)
UE capability enquiry	UE CAPABILITY ENQUIRY	UE CAPABILITY INFORMATION	NA	8	N1 is not applicable because the UE configuration does not change.
Security mode control	SECURITY MODE COMMAND	SECURITY MODE COMPLETE	5	8	
Signalling connection release procedure	SIGNALLING CONNECTION RELEASE		5	NA	N2 is not applicable because there is no response message.
Counter check	COUNTER CHECK	COUNTER CHECK RESPONSE	NA	8	N1 is not applicable because the UE configuration does not change.
Radio Bearer control procedures					
Radio bearer establishment *Target state CELL_DCH*	RADIO BEARER SETUP	RADIO BEARER SETUP COMPLETE / FAILURE	10	NA	N2 cannot be specified, because the RADIO BEARER SETUP COMPLETE / FAILURE message is transmitted only after physical layer synchronisation, which depends also on Node B.
Radio bearer establishment *From state CELL_FACH to state CELL_FACH*	RADIO BEARER SETUP	RADIO BEARER SETUP COMPLETE / FAILURE	10	11	
Radio bearer establishment *From CELL_DCH to CELL_FACH*	RADIO BEARER SETUP	RADIO BEARER SETUP COMPLETE	NA	NA	N1 and N2 cannot be specified, because UE need to read SIBs on BCH before sending RADIO BEARER SETUP COMPLETE
Radio bearer reconfiguration *Target state CELL_DCH*	RADIO BEARER RECONFIGURATION	RADIO BEARER RECONFIGURATION COMPLETE / FAILURE	10	NA	N2 cannot be specified, because the RADIO BEARER RECONFIGURATION COMPLETE / FAILURE message is transmitted only after physical layer synchronisation, which depends also on Node B.
Radio bearer reconfiguration *From state CELL_FACH to state CELL_FACH*	RADIO BEARER RECONFIGURATION	RADIO BEARER RECONFIGURATION COMPLETE / FAILURE	10	11	

Procedure title:	UTRAN -> UE	UE -> UTRAN	N1	N2	Notes
Radio bearer reconfiguration *From state CELL_DCH to state CELL_FACH*	RADIO BEARER RECONFIGURATION	RADIO BEARER RECONFIGURATION COMPLETE	NA	NA	N1 and N2 cannot be specified, because UE need to read SIBs on BCH before sending RADIO BEARER RECONFIGURATION COMPLETE
Radio bearer release *Target state CELL_DCH*	RADIO BEARER RELEASE	RADIO BEARER RELEASE COMPLETE / FAILURE	10	11	
Radio bearer release *From state CELL_FACH to state CELL_FACH*	RADIO BEARER RELEASE	RADIO BEARER RELEASE COMPLETE / FAILURE	10	11	
Radio bearer release *From state CELL_DCH to state CELL_FACH*	RADIO BEARER RELEASE	RADIO BEARER RELEASE COMPLETE	NA	NA	N1 and N2 cannot be specified, because UE need to read SIBs on BCH before sending RADIO BEARER RECONFIGURATION COMPLETE
Transport channel reconfiguration *Target state CELL_DCH*	TRANSPORT CHANNEL RECONFIGURATION	TRANSPORT CHANNEL RECONFIGURATION COMPLETE / FAILURE	10	NA	N2 cannot be specified, because the TRANSPORT CHANNEL RECONFIGURATION COMPLETE / FAILURE message is transmitted only after physical layer synchronisation, which depends also on Node B.
Transport channel reconfiguration *From state CELL_FACH to state CELL_FACH*	TRANSPORT CHANNEL RECONFIGURATION	TRANSPORT CHANNEL RECONFIGURATION COMPLETE / FAILURE	10	11	
Transport channel reconfiguration *From state CELL_DCH to state CELL_FACH*	TRANSPORT CHANNEL RECONFIGURATION	TRANSPORT CHANNEL RECONFIGURATION COMPLETE	NA	NA	N1 and N2 cannot be specified, because UE need to read SIBs on BCH before sending TRANSPORT CHANNEL RECONFIGURATION COMPLETE
Transport format combination control	TRANSPORT FORMAT COMBINATION CONTROL	TRANSPORT FORMAT COMBINATION CONTROL FAILURE	5	8	
Physical channel reconfiguration *Target state CELL_DCH*	PHYSICAL CHANNEL RECONFIGURATION	PHYSICAL CHANNEL RECONFIGURATION COMPLETE / FAILURE	8	NA	N2 cannot be specified, because the PHYSICAL CHANNEL RECONFIGURATION COMPLETE / FAILURE message is transmitted only after physical layer synchronisation, which depends also on Node B.
Physical channel reconfiguration *From state CELL_FACH to state CELL_FACH*	PHYSICAL CHANNEL RECONFIGURATION	PHYSICAL CHANNEL RECONFIGURATION COMPLETE / FAILURE	8	9	
Physical channel reconfiguration *From state CELL_DCH to state CELL_FACH*	PHYSICAL CHANNEL RECONFIGURATION	PHYSICAL CHANNEL RECONFIGURATION COMPLETE	NA	NA	N1 and N2 cannot be specified, because UE need to read SIBs on BCH before sending PHYSICAL CHANNEL RECONFIGURATION COMPLETE

Procedure title:	UTRAN -> UE	UE -> UTRAN	N1	N2	Notes
Physical Shared Channel Allocation [TDD only]	PHYSICAL SHARED CHANNEL ALLOCATION		5	NA	N2 is not applicable because no response message is defined.
Uplink Physical Channel Control [TDD only]	UPLINK PHYSICAL CHANNEL CONTROL		8~~NA~~	NA	Requirements for outer loop and timing advance adjustments are defined in [22] and [20]. N2 is not applicable because there is no response message.
RRC connection mobility procedures					
Cell update	CELL UPDATE CONFIRM	UTRAN MOBILITY INFORMATION CONFIRM	5	8	
		PHYSICAL CHANNEL RECONFIGURATION COMPLETE *Target state CELL_FACH*	8	9	
		PHYSICAL CHANNEL RECONFIGURATION COMPLETE *Target state CELL_DCH*	8	NA	N2 cannot be specified, because the PHYSICAL CHANNEL RECONFIGURATION COMPLETE / FAILURE message is transmitted only after physical layer synchronisation, which depends also on Node B.
		TRANSPORT CHANNEL RECONFIGURATION COMPLETE *Target state CELL_FACH*	10	11	
		TRANSPORT CHANNEL RECONFIGURATION COMPLETE *Target state CELL_DCH*	10	NA	N2 cannot be specified, because the PHYSICAL CHANNEL RECONFIGURATION COMPLETE / FAILURE message is transmitted only after physical layer synchronisation, which depends also on Node B.
		RADIO BEARER RECONFIGURATION COMPLETE *Target state CELL_FACH*	10	11	
		RADIO BEARER RECONFIGURATION COMPLETE *Target state CELL_DCH*	10	NA	N2 cannot be specified, because the PHYSICAL CHANNEL RECONFIGURATION COMPLETE / FAILURE message is transmitted only after physical layer synchronisation, which depends also on Node B.
		RADIO BEARER RELEASE COMPLETE *Target state CELL_DCH*	10	11	

Procedure title:	UTRAN -> UE	UE -> UTRAN	N1	N2	Notes
URA update	URA UPDATE CONFIRM	UTRAN MOBILITY INFORMATION CONFIRM	5	8	
UTRAN mobility information	UTRAN MOBILITY INFORMATION	UTRAN MOBILITY INFORMATION CONFIRM / FAILURE	5	8	
Active set update	ACTIVE SET UPDATE	ACTIVE SET UPDATE COMPLETE / FAILURE	NA	8	The requirements on UE combining and power control performance for both UL and DL are specified by RAN WG4 in [21] and [19]. Also in case of branch addition the COMPLETE / FAILURE message is transmitted without waiting for the new branch to stabilise, therefore N2 is specified.
Inter-RAT handover to UTRAN	HANDOVER TO UTRAN COMMAND (other system)	HANDOVER TO UTRAN COMPLETE	NA	NA	The performance of this procedure is specified in 05.10.
Inter-RAT handover from UTRAN	HANDOVER FROM UTRAN COMMAND	HANDOVER FROM UTRAN FAILURE	NA	NA	The performance of this procedure is specified in [19] and [20].
Measurement procedures					
Measurement control	MEASUREMENT CONTROL	MEASUREMENT CONTROL FAILURE	5	8	Response to measurement inquiry depends on physical layer measurement. Response time is defined in [19] and [20]. N1 and N2 only define the processing of the message.

3GPP TSG-RAN WG2 Meeting #27
Orlando, USA, 18th - 22nd February 2002

Tdoc r2-020501

CR-Form-v5

CHANGE REQUEST

⌘ **25.331** **CR** **1319** ⌘ **rev** ⌘ Current version: **4.3.0** ⌘

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

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

Title:	⌘	Treatment of optional elements in RB control messages
Source:	⌘	TSG-RAN WG2
Work item code:	⌘	TEI
Date:	⌘	18 FEB 2002
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)*

Reason for change: ⌘

1. When receiving Radio Control Reconfiguration messages certain IEs, being optional, may not be included by the UTRAN. If the presence of a IE is used to configure a certain feature, then the behaviour of the UE if this IE is absent is not clear - whether the UE is to stop using the configuration corresponding to the previously received values or continue to use the previously received values.

2. The IE "Secondary CPICH Info " is optional in the IE "Downlink DPCH Info" for each RL. If the UTRAN includes this IE in one configuration message the UE will start using the secondary CPICH. If the URTRAN then does not include it in a subsequent reconfiguration message, it is not clear if the UE is meant to continue to use the previously received configuration or not. If the UE is required to continue to use the previously received configuration then it is not possible for the UTRAN to disable Secondary CPICH operation. It is required for the UTRAN to have the ability to turn off the use of theSecondary CPICH.

3. The IE "CPCH Set ID" is OP. It is not clear what the UE is to do in case this is not included in a subsequent message.

4. The IE "Header Compression Information" is optional. If a subsequent message does not include it the UE action is not clear. Without clear actions it will not be possible to stop header compressikon in case of relocation for e.g.

Summary of change: ⌘

1. It is clarified that the UE shall not use any previously stored configuration for the IE "Polling Info".
2. It is clarified that the UE shall stop acting on the IE "secondary CPICH Info" is not included in a subsequent message.
3. It is clarified that the UE shall stop using the PCPCH assigned to it if the IE

"CPCH Set ID" is not included in a subsequent message and start using the last PRACH configured on the UL.

4. It is clarfied that the UE shall not use any stored header compression information if absent in a subsequent message.

Isolated Impact Analysis
Corrected Functionality : Radio Bearer Control

Correction to a function where the specification was:

- ambiguous or not sufficiently explicit.

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

The corrected functionality is Radio Control Reconfiguration, Secondary CPICH usage in the UE.

- If the network implements the change but not the UE, the UE might incorrectly not apply the right configuration in case of a UE implementation that decides to not use a previous configuration. In addition the UE would incorrectly continue to use the Secondary CPICH.
- If the UE implements the change but not the network, the UE might incorrectly not apply the right configuration in case of a NW implementation that decides to not use a previous configuration and thereby signal it as such by not including the IEs.

Consequences if not approved:	⌘	1. The UTRAN will not be able to switch off a previously configured Polling mechanism. 2. The UTRAN will not have the ability to turn off the usage of the Secondary CPICH by the UE. 3. The UTRAN will not be able to stop CPCP usage. 4. The UTRAN will not be able to stop the application of header compression.

Clauses affected:	⌘	8.6.4.9, 8.6.4.10, 8.6.6.12, 8.6.6.20		
Other specs affected:	⌘	☐ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	25.331 v3.9.0, CR 1318r1
Other comments:	⌘			

How to create CRs using this form:

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

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

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

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

8.6.4.9 RLC Info

If the IE "RLC Info" is included, the UE shall:

- configure the transmitting and receiving RLC entities in the UE for that radio bearer accordingly~~.~~;
- if IE "Polling Info" is absent:
  - remove any previously stored configuration for the IE "Polling Info"

If the IE "Transmission RLC discard" is not included for UM RLC or TM RLC, RLC discard procedure shall not be used for that radio bearer.

8.6.4.10 PDCP Info

For RFC 3095:

- the chosen MAX_CID shall not be greater than the value "Maximum number of ROHC context sessions" as indicated in the IE "PDCP Capability";
- the configuration for the PACKET_SIZES_ALLOWED is FFS.

If IE "PDCP info" is included, the UE shall:

- if the radio bearer is connected to a CS domain radio access bearer:
  - set the variable INVALID_CONFIGURATION to TRUE.
- if the IE "PDCP PDU header" is set to the value "absent":
  - if the IE "Support for lossless SRNS relocation" is true:
    - set the variable INVALID_CONFIGURATION to TRUE.
- if the IE "PDCP PDU header" is set to the value "present":
  - if the IE "Support for lossless SRNS relocation" is false:
    - if the IE "Header compression information" is absent:
      - set the variable INVALID_CONFIGURATION to TRUE.
- if the IE "Header compression information" is absent:
  - not use Header compression after the successful completion of this procedure;
  - remove any stored configuration for the IE "Header compression information";
- configure the PDCP entity for that radio bearer accordingly;
- configure the RLC entity for that radio bearer according to the value of the IE "Support for lossless SRNS relocation".

8.6.6.12 Secondary CPICH info

If the IE Secondary CPICH info is included, the UE:

- may use the channelisation code according to IE "channelisation code", with scrambling code according to IE "DL scrambling code" in the IE "Secondary CPICH info", for channel estimation of that radio link;
- may use the pilot bits on DPCCH for channel estimation.

If the IE Secondary CPICH info is not included, the UE shall:

- not use any previously stored configuration corresponding to the usage of the Secondary CPICH info.

8.6.6.20 CPCH set ID (FDD only)

If the UE has the capability to use CPCH, the UE shall use the following general procedures. The UE shall:

- if an IE "CPCH set ID" is included in a dedicated message and not as part of IE "CPCH SET Info":
  - use the IE as an address tag to retrieve the corresponding stored "CPCH SET Info";
  - release any active dedicated physical channels in the uplink;
  - let the PCPCHs listed in the CPCH set be the default in the uplink for CPCH.
- if an IE "CPCH set ID" is included in a dedicated message and not as part of IE "CPCH SET Info", and if there is no corresponding stored "CPCH SET Info":
  - release any active dedicated physical channels in the uplink;
  - let the last assigned PRACH be the default in the uplink for RACH;
  - obtain current System Information on SCCPCH to obtain and store the "CPCH SET info" IE(s);
  - upon receipt of a "CPCH SET Info" which corresponds to the "CPCH set ID" IE:
    - let the PCPCHs listed in that CPCH set be the default in the uplink for CPCH;
- if an IE "CPCH set ID" is not included in a dedicated message and the UE prior to the receipt of this message had configured the PCPCH as the default in the uplink :
  - stop using the PCPCH;
  - let the last assigned PRACH be the default in the uplink for RACH;