TSG-RAN Meeting #12
Stockholm, Sweden, 12 - 15 June 2001

TSGRP#12(01) 0381

Title: **Agreed CRs to TS 25.427**

Source: **TSG-RAN WG3**

Agenda item: **8.3.3/8.3.4**

Tdoc_Num	Specification	CR_Num	Revision_Num	CR_Subject	CR_Category	WG_Status	Cur_Ver_Num	New_Ver_Num	Workitem
R3-011501	25.427	049		CRCI Inclusion in the UL Data Frames	F	agreed	3.6.0	3.7.0	TEI
R3-011502	25.427	050		CRCI Inclusion in the UL Data Frames	A	agreed	4.0.0	4.1.0	TEI
R3-011649	25.427	053	1	UP Synchronisation for a Radio Link	F	agreed	3.6.0	3.7.0	TEI
R3-011650	25.427	054	1	UP Synchronisation for a Radio Link	A	agreed	4.0.0	4.1.0	TEI

3GPP TSG-RAN3 Meeting #21
Busan, Korea, 21st – 25th May 2001

R3-011501

CR-Form-v3

CHANGE REQUEST

⌘ **25.427** **CR** **049** ⌘ rev **-** ⌘ Current version: **3.6.0** ⌘

*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:	⌘	CRCI Inclusion in the UL Data Frames
Source:	⌘	R-WG3
Work item code:	⌘	TEI
Date:	⌘	May 2001
Category:	⌘	**F**
Release:	⌘	R99

Use one of the following categories:
- ***F*** *(essential 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 current specification version states that there is a CRCI bit for each TB included in the frame. But it is not clearly indicated if the CRCI bit is included if the size of the TB is zero.
Summary of change:	⌘	This CR adds a clarification that the CRCI bit is included also for TBs with TB length equal to zero.
Consequences if not approved:	⌘	If this CR is not approved there is a possibility for different interpretations and problems might occur in a multivendor environment. This CR is backward compatible.

Clauses affected:	⌘	6.2.2		
Other specs affected:	⌘	☒ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	CR050 25.427 REL-4
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.

6.2.2 Uplink data frame

The structure of the UL data frame is shown below.

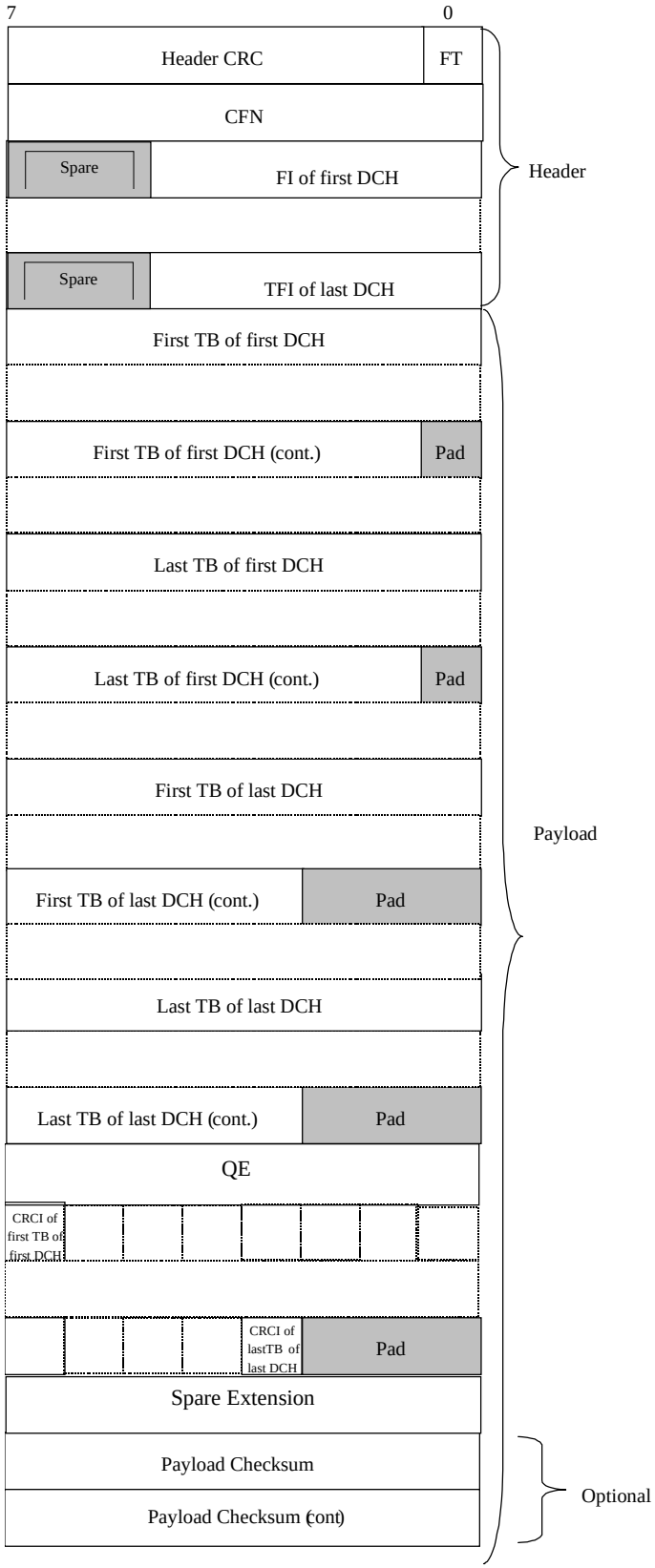

Figure 11: Uplink data frame structure

For the description of the fields see subclause 6.2.4.

There are as many TFI fields as number of DCH multiplexed in the same transport bearer.

The DCHs in the frame structure are ordered from the lower DCH id ('first DCH') to the higher DCH id ('last DCH').

The size and the number of TBs for each DCH is defined by the correspondent TFI.

If the TB does not fill an integer number of bytes, then bit padding is used as shown in the figure in order to have the octet aligned structure (ex: a TB of 21 bits requires 3 bits of padding).

There is a CRCI for each TB included in the frame irrespective of the size of the TB, i.e. the CRCI is included also when the TB length is zero. If the CRC indicators of one data frame do not fill an integer number of bytes, then bit padding is used as shown in the figure in order to have the octet aligned structure (ex. 3 CRCI bits require 5 bits of padding, but there are no CRCI bits and no padding, when number TBs is zero).

The payload CRC is optional, i.e. the whole 2 bytes field may or may not be present in the frame structure (this is defined at the setup of the transport bearer).

3GPP TSG-RAN3 Meeting #21
Busan, Korea, 21st – 25th May 2001

R3-011502

CR-Form-v3

CHANGE REQUEST

⌘ **25.427** **CR** **050** ⌘ rev **-** ⌘ Current version: **4.0.0** ⌘

*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 **X** Core Network ☐

Title:	⌘	CRCI Inclusion in the UL Data Frames
Source:	⌘	R-WG3
Work item code:	⌘	***Date:*** ⌘ May 2001
Category:	⌘ **A**	***Release:*** ⌘ REL-4

Use one of the following categories:
F *(essential 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 current specification version states that there is a CRCI bit for each TB included in the frame. But it is not clearly indicated if the CRCI bit is included if the size of the TB is zero.
Summary of change:	⌘	This CR adds a clarification that the CRCI bit is included also for TBs with TB length equal to zero.
Consequences if not approved:	⌘	If this CR is not approved there is a possibility for different interpretations and problems might occur in a multivendor environment. This CR is backward compatible.

Clauses affected:	⌘	6.2.2		
Other specs affected:	⌘	**X** Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	CR049 25.427 R99
Other comments:	⌘			

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

6.2.2 Uplink data frame

The structure of the UL data frame is shown below.

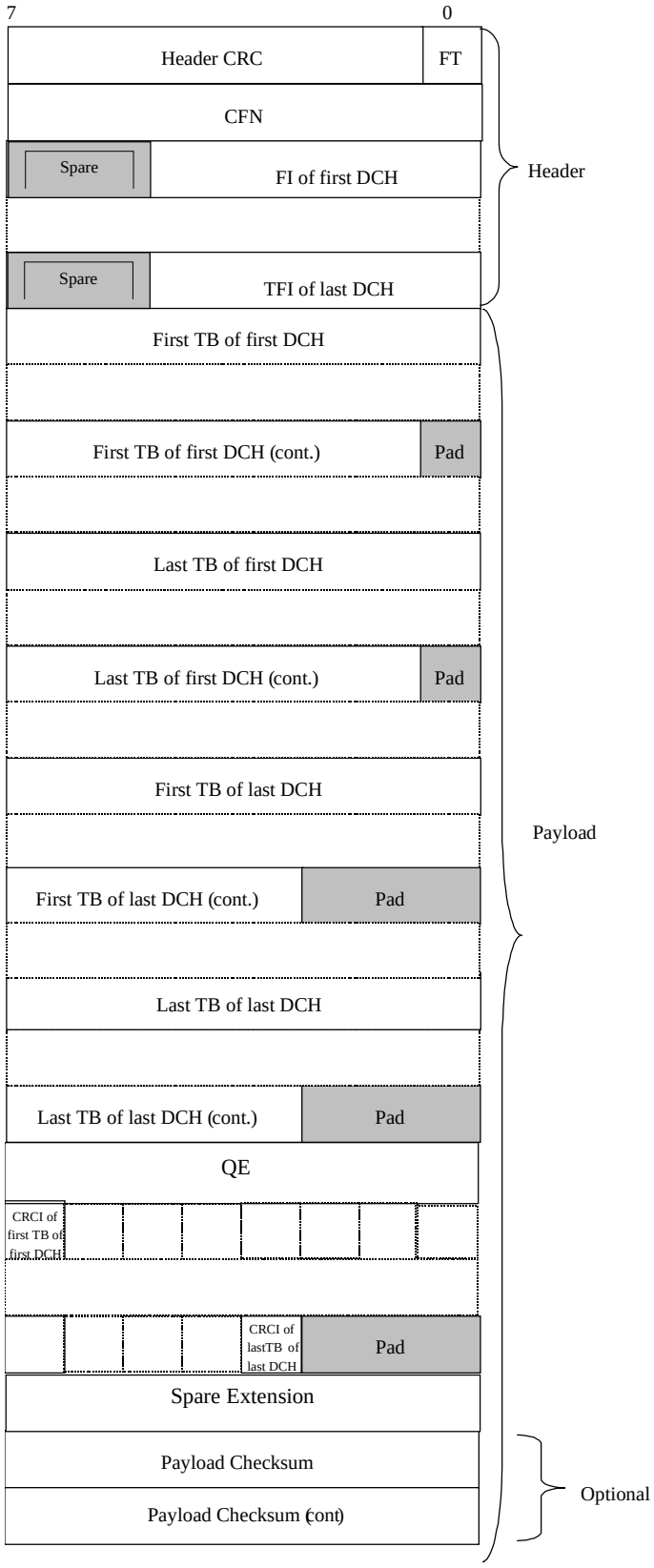

Figure 11: Uplink data frame structure

For the description of the fields see subclause 6.2.4.

There are as many TFI fields as number of DCH multiplexed in the same transport bearer.

The DCHs in the frame structure are ordered from the lower DCH id ('first DCH') to the higher DCH id ('last DCH').

The size and the number of TBs for each DCH is defined by the correspondent TFI.

If the TB does not fill an integer number of bytes, then bit padding is used as shown in the figure in order to have the octet aligned structure (ex: a TB of 21 bits requires 3 bits of padding).

There is a CRCI for each TB included in the frame irrespective of the size of the TB, i.e. the CRCI is included also when the TB length is zero. If the CRC indicators of one data frame do not fill an integer number of bytes, then bit padding is used as shown in the figure in order to have the octet aligned structure (ex. 3 CRCI bits require 5 bits of padding, but there are no CRCI bits and no padding, when number TBs is zero).

The payload CRC is optional, i.e. the whole 2 bytes field may or may not be present in the frame structure (this is defined at the setup of the transport bearer).

3GPP TSG-RAN WG3 Meeting #21
Busan, Korea, May 21st – May 25th, 2001

R3-011649

CR-Form-v3

CHANGE REQUEST

⌘ **25.427** **CR** **053** ⌘ rev **1** ⌘ Current version: **3.6.0** ⌘

*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:	⌘	UP Synchronisation for a Radio Link
Source:	⌘	R-WG3
Work item code:	⌘	TEI
Date:	⌘	2001-05-18
Category:	⌘	**F**
Release:	⌘	R99

Use one of the following categories:
F *(essential 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 25.433, a RL can be setup or reconfigured so that a UE is able to transmit on a DSCH. So there are transport bearers set up for the specific purpose of transmitting DL data frames on a DSCH. In the current specification, a RL is considered as synchronised if ALL the transport bearers for carrying DL Data Streams but nothing exists concerning the transport bearers established for DSCH. This needs to be clarified.
Summary of change:	⌘	Synchronisation in the Iub User Plane for a Radio Link shall only be achieved when all the transport channels established for carrying DL DCH Data Streams are synchronised. This CR is backward compatible
Consequences if not approved:	⌘	If this CR is not approved, then some unclarity remains as to the need to have the transport bearers for data streams on a DSCH present in a RL synchronised so that the Node B can consider the RL as synchronised.

Clauses affected:	⌘	5.1.2		
Other specs affected:	⌘	☒ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	25.427 v4.0.0 CR54
Other comments:	⌘			

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5.1.2 Downlink

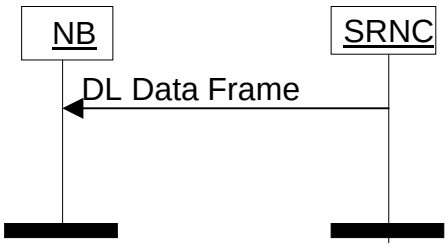

Figure 2: Downlink data transfer

The Node B shall only consider a transport bearer synchronised after it has received at least one data frame on this transport bearer before LTOA [45].

The Node B shall consider the DL user plane for a certain RL synchronised if all transport bearers established for carrying DL DCH data frames for this RL are synchronised.

[FDD - Only when the DL user plane is considered synchronised, the Node B shall transmit on the DL DPDCH.

[TDD – The Node B shall transmit special bursts on the DL DPCH as per [11], until the DL user plane is considered synchronised].

When the DL user plane is considered synchronised and the Node B does not receive a valid DL Data Frame in a TTI, it assumes that there is no data to be transmitted in that TTI for this transport channel, and shall act as one of the following cases:

- [TDD – If the Node B receives no valid data frames for any transport channel assigned to a UE it shall assume DTX and transmit special bursts as per [11]].
- If the node B is aware of a TFI value corresponding to zero bits for this transport channel, this TFI is assumed. If the TFS contains both a TFI corresponding to “TB length equal to 0 bits” and a TFI corresponding to “number of TB equal to 0”, the node-B shall assume the TFI corresponding to “number of TB equal to 0”. When combining the TFI’s of the different transport channels, a valid TFCI might result and in this case data shall be transmitted on Uu.
- If the node B is not aware of a TFI value corresponding to zero bits for this transport channel or if combining the TFI corresponding to zero bits with other TFI’s, results in an unknown TFI combination, the handling as described in the following paragraph shall be applied.

At each radio frame, the Node B shall build the TFCI value of each CCTrCH, according to the TFI of the DCH data frames multiplexed on this CCTrCH and scheduled for that frame. [FDD - In case the Node B receives an unknown combination of TFIs from the DL Data Frames, it shall transmit only the DPCCH without TFCI bits.] [TDD - In case the Node receives an unknown combination of DCH data frames, it shall apply DTX, i.e. suspend transmission on the corresponding DPCHs.]

3GPP TSG-RAN WG3 Meeting #21
Busan, Korea, May 21st – May 25th, 2001

R3-011650

CR-Form-v3

CHANGE REQUEST

⌘ **25.427** **CR** **054** ⌘ rev **1** ⌘ Current version: **4.0.0** ⌘

*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:	⌘	UP Synchronisation for a Radio Link
Source:	⌘	R-WG3
Work item code:	⌘	TEI
Date:	⌘	2001-05-18
Category:	⌘	**A**
Release:	⌘	REL-4

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Clauses affected:	⌘	5.1.2		
Other specs affected:	⌘	☒ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	25.427 v3.6.0 CR53
Other comments:	⌘			

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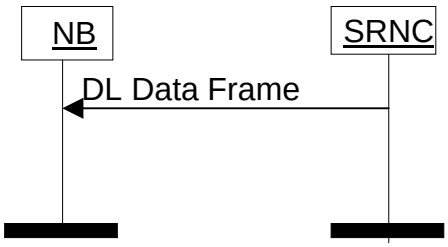
5.1.2 Downlink



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[TDD – The Node B shall transmit special bursts on the DL DPCH as per [11], until the DL user plane is considered synchronised].

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