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

TSGRP#15(02) 0166

Title: **Agreed CRs to TS 25.415**

Source: **TSG-RAN WG3**

Agenda item: **7.3.3/7.3.4**

RP_Num	Tdoc_Num	Specification	CR_Num	Revision_Num	3G_Release	CR_Subject	CR_Category	Cur_Ver_Num	Workitem
RP-020166	R3-020730	25.415	098	2	R99	Rate Control Correction	F	3.9.0	TEI

3GPP TSG-RAN WG3 Meeting #27 ***R3-020730***
Orlando, USA, 18th – February22th, 2002

CR-Form-v3

CHANGE REQUEST

⌘ **25.415** **CR** **098** ⌘ rev **2** ⌘ 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 **X** Core Network X

Title:	⌘	Rate Control Correction			
Source:	⌘	R-WG3			
Work item code:	⌘	TEI	***Date:*** ⌘	18 February 2002	
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:	⌘	Some error in the use of the rate control procedure has been highlighted in last meeting RAN3#26 when only guranteed bit rate is needed. It is not clear that the set of downlink permitted rates may be composed of no rate controllable rate in order to allow no rates above the guaranteed bit rate if desired.
Summary of change:	⌘	The text is clarified to say clearly that no rate above the Guaranteed bit rate modes may be part of the downlink permitted rates when none of the rate controllable rates are allowed by the rate control frame. Impact assessment towards the previous version of the specification (same release): This CR has isolated impact with the previous version of the specification (same release) since with this correction the non-rate controllabe rates shall not be considered by the rate control procedure in the RNC. This CR has an impact under functional point of view for implementations not behaving like indicated in the CR The impact can be considered isolated because the change affects only the system function Rate Control.
Consequences if not approved:	⌘	It will not be possible to allow only the guaranteed bit rate and lower rates including SID and No_Data when a higher rate has once been included.

Clauses affected:	⌘	6.5.3.1		
Other specs	⌘	☐ Other core specifications	⌘	

affected:	☐ 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://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.

6.5.3 Iu Rate Control procedure

6.5.3.1 Successful operation

The purpose of the Iu Rate Control procedure is to signal to the peer Iu UP protocol layer the permitted rate(s) over Iu in the reverse direction of the sent RATE CONTROL control frame.

The Iu Rate Control procedure over Iu UP is controlled by the entity controlling the rate control over UTRAN i.e. SRNC.The Iu Rate Control procedure is invoked whenever the SRNC decides that the set of downlink permitted rates over Iu shall be modified. The rate control procedure ~~is~~may thus be used to permit ~~set can be~~ zero, one or several ~~made of only one permitted~~ rates among the rates ~~that are permitted for rate control or several rates among the rates~~ that can be rate controlled by the SRNC.

The rates that can be controlled by the SRNC are the rates that are above the guaranteed bitrate (indicated to the Iu UP at establishment) Rates below the guaranteed bitrate, e.g. SID frames, cannot be controlled by the RNC.

The procedure can be signalled at any time when transfer of user data is not suspended by another control procedure.

The Procedure Control function upon request of upper layer prepares the RATE CONTROL control frame payload containing the permitted rates of the reverse direction of the RATE CONTROL control frame. The permitted rate is given as RFCI indicators.

The Frame Handler function calculates the frame CRC, formats the frame header into the appropriate PDU Type and sends the Iu UP frame PDU to the lower layers for transfer across the Iu interface.

Upon reception of a RATE CONTROL control frame, the Iu UP protocol layer checks the consistency of the Iu UP frame as follows:

- The Frame Handler function checks the consistency of the frame header and associated CRC. If correct, the Frame Handler function passes procedure control part to the Procedure Control functions;
- The Procedure Control functions check that all RFCIs in the initial RFCI set are indicated as either allowed or barred. They also verify that non-rate controllable rates are still permitted. If the whole rate control information is correct, the Procedure Control functions passes the rate control information to the NAS Data Streams specific functions;
- The NAS Data Streams specific functions forward to the upper layers the rate control information in a Iu-UP-Status indication primitive.

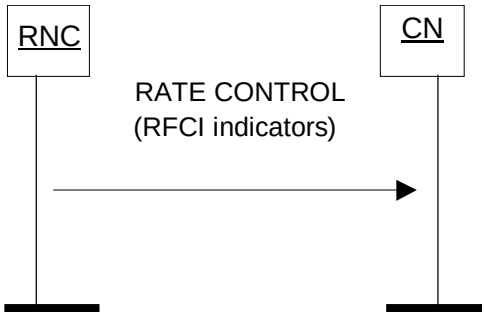

Figure 11: Successful Rate Control sent from SRNC

Figure 12: Void

6.5.3.2 Unsuccessful operation

If the Iu UP in the SRNC detects that the RATE CONTROL control frame has not been correctly interpreted or received (e.g. the rate is outside the set of permitted rates in the reverse direction of the RATE CONTROL control frame), the Iu UP shall retrigger a Iu Rate Control procedure. If after N_{RC} repetitions, the error situation persists, the Iu UP protocol layers (sending and receiving) take the appropriate local actions.

If the Iu UP protocol layer receives a RATE CONTROL control frame that is badly formatted or corrupted, it shall ignore the RATE CONTROL control frame.

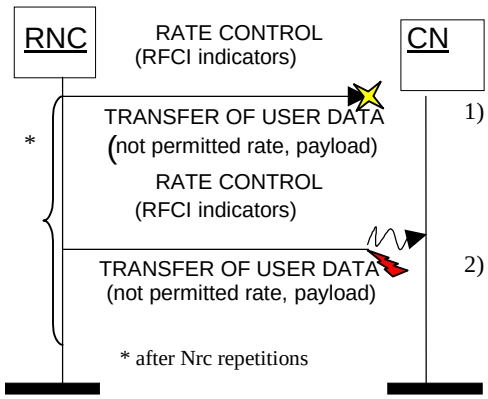

Figure 13: Unsuccessful Transfer of rate control from RNC: 1) Frame loss 2) Corrupted Frame

Figure 14: Void

Figure 15: Void