TSG-RAN Meeting #23 **RP-040103**
Phoenix, 10-12 March 2004

Title: **CRs on 25.308 Rel-5 (and linked CRs from later releases)**

Source: **TSG-RAN WG2**

Agenda item: **7.3.5**

Spec	CR	Rev	Phase	Subject	Cat	Version-Current	Version-New	Doc-2nd-Level	Workitem
25.308	007	-	Rel-5	Corrections to HS-DSCH cell change, applicability of HS-DSCH and Need for Re-ordering queue	F	5.4.0	5.5.0	R2-040656	HSDPA-L23
25.308	008	-	Rel-6	Corrections to HS-DSCH cell change, applicability of HS-DSCH and Need for Re-ordering queue	F	6.0.0	6.1.0	R2-040657	HSDPA-L23

3GPP TSG RAN2 Meeting #41
Malaga, Spain, 16 - 20 February, 2004

Tdoc ⌘R2-040656

CR-Form-v7

CHANGE REQUEST

⌘ **25.308** **CR** **007** ⌘**rev** ⌘ Current version: **5.4.0** ⌘

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

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

Title:	⌘	Corrections to HS-DSCH cell change, applicability of HS-DSCH and Need for Re-ordering queue
Source:	⌘	RAN WG2
Work item code:	⌘	HSDPA-L23
Date:	⌘	February 12, 2004
Category:	⌘	**F**
Release:	⌘	Rel-5

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

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

Reason for change: ⌘[H15]	1. The applicability of HS-DSCH being limited to PS domain RABs only is not stated. 2. The text describing the use of the Priority class identifier is incorrect in that it suggests that the MAC-hs entity can differentiate between logical channels using this identifier. This identifier is also ncorrectly termed pritoty class identifier. 3. The text on HS-DSCH cell change incorrectly suggests that no re-ordering buffer flush is required in certain cases. However, the Stage 3 includes this as a step in the MAC-hs reset procedure.
Summary of change: ⌘	1. It is clarified that HS-DSCH only appies to the PS domain RABs. 2. The text is corrected to indicate that the Re-ordering Queue Identity is used to map the different MAC-hs PDUS to the correct re-orering queue. 3. The text is changed to indicate that the MAC_hs reset triggers the release of the received data in teh re-ordering queue to the upper layers.
Consequences if not approved: ⌘	1. It would not be captured anywhere int eh 3GPP specifications that HS-DSCH only applies to PS domain. 2, 3. Nothing catastrophic would happen since the Stage 3 is correct; however, confusion on the re-ordering queues and their relation to logical channels and priroity classes may result.

Clauses affected:	⌘	4, 7.1.2.2, 9.4			
		Y	**N**		
Other specs affected:	⌘		**X**	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

How to create CRs using this form:

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

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

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

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

4 Background and Introduction

High Speed Downlink Packet Access is based on techniques such as adaptive modulation and hybrid ARQ to achieve high throughput, reduce delay and achieve high peak rates.

It relies on a new type of transport channel, the HS-DSCH, which is terminated in the Node B. HS-DSCH is applicable only to PS domain RABs.

7.1.2 Downlink

7.1.2.1 Shared control channel signalling

The following HARQ protocol parameters are carried on the HS-SCCH:

- HARQ process identifier:
  - Every HARQ process is assigned an identifier, which is used to couple the processes in the transmitter and the receiver.
- New data indicator:
  - It is used to distinguish between data blocks. It is specific to the HARQ process. It is incremented for each new data block.

7.1.2.2 In-band signalling on HS-DSCH

The following parameters are signalled in-band in the MAC-hs header to support in-sequence delivery and priority handling at the UE. These parameters are protected by the same CRC as the Data block.

- ~~Priority class identifier~~Re-ordering Queue Identity:
  - It is used to ~~distinguish different priority classes in order to differentiate between logical channels multiplexed in the same transport channel~~identify the re-ordering buffer destination of a MAC-hs PDU.
- Transmission sequence number:
  - It is incremented for each new data block ~~within a priority class~~destined to a re-ordering buffer. It is used for reordering to support in-sequence delivery.

9.4 Inter-Node B synchronised serving HS-DSCH cell change during hard handover

Figure 9.4-1 illustrates a synchronised inter-Node B serving HS-DSCH cell change in combination with hard handover. The reconfiguration is performed in two steps within UTRAN. On the radio interface only a single RRC procedure is used.

Here we assume the UE transmits a MEASUREMENT REPORT message containing intra-frequency measurement results, triggered by the event 1D "change of best cell". The SRNC determines the need for hard handover based on received measurement reports and/or load control algorithms (measurements may be performed in compressed mode for FDD).

In the first step, the SRNC establishes a new radio link in the target Node B. In the second step this newly created radio link is prepared for a synchronised reconfiguration to be executed at a given activation time indicated in the CPHY-RL-Commit-REQ primitive. After the first step, the target Node B starts transmission and reception on dedicated channels.

At the indicated activation time, transmission of HS-DSCH is started in the target HS-DSCH Node B and stopped in the source HS-DSCH Node B.

The SRNC then sends a TRANSPORT CHANNEL RECONFIGURATION message on the old configuration. This message indicates the configuration after handover, both for DCH and HS-DSCH. The TRANSPORT CHANNEL RECONFIGURATION message includes a flag indicating that the MAC-sh entity in the UE shall be reset. The message also includes an update of transport channel related parameters for the HS-DSCH in the target HS-DSCH cell.

The UE terminates transmission and reception on the old radio link at the activation time indicated in the TRANSPORT CHANNEL RECONFIGURATION message, and configures its physical layer to begin reception on the new radio link. After L1 synchronisation has been established, the UE sends a TRANSPORT CHANNEL RECONFIGURATION COMPLETE message. The SRNC then terminates reception and transmission on the old radio link for dedicated channels and releases all resources allocated to the considered UE.

Note that in this inter-Node B handover example, RLC for transmission/reception on HS-DSCH is stopped at both the UTRAN and UE sides prior to reconfiguration and continued when the reconfiguration is completed. It is furthermore assumed in this example that the TRANSPORT CHANNEL RECONFIGURATION message indicates to the UE that the MAC-hs entity should be reset and a status report for each RLC entity associated with the HS-DSCH should be generated. A reset of the UE MAC-hs entity ~~however does not require to flush the reordering buffers but to~~triggers the delivery of the content in the re-ordering buffer to higher layers.

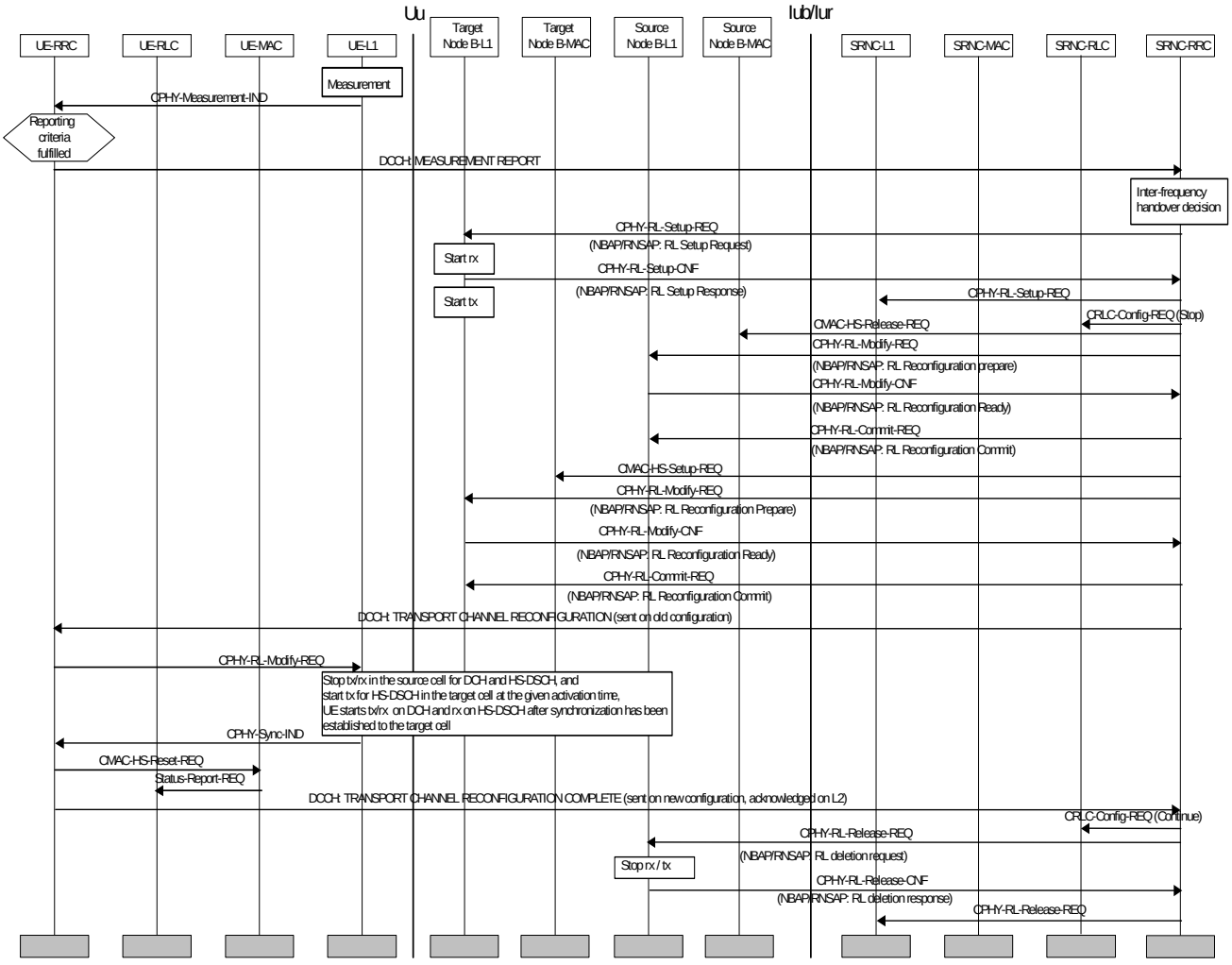

Figure 9.4-1: Inter-Node B synchronised serving HS-DSCH cell change during hard handover

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CHANGE REQUEST

⌘ **25.308** **CR** **008** ⌘**rev** ⌘ Current version: **6.0.0** ⌘

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Work item code:	⌘	HSDPA-L23
Date:	⌘	February 12, 2004
Category:	⌘	**A**
Release:	⌘	Rel-6

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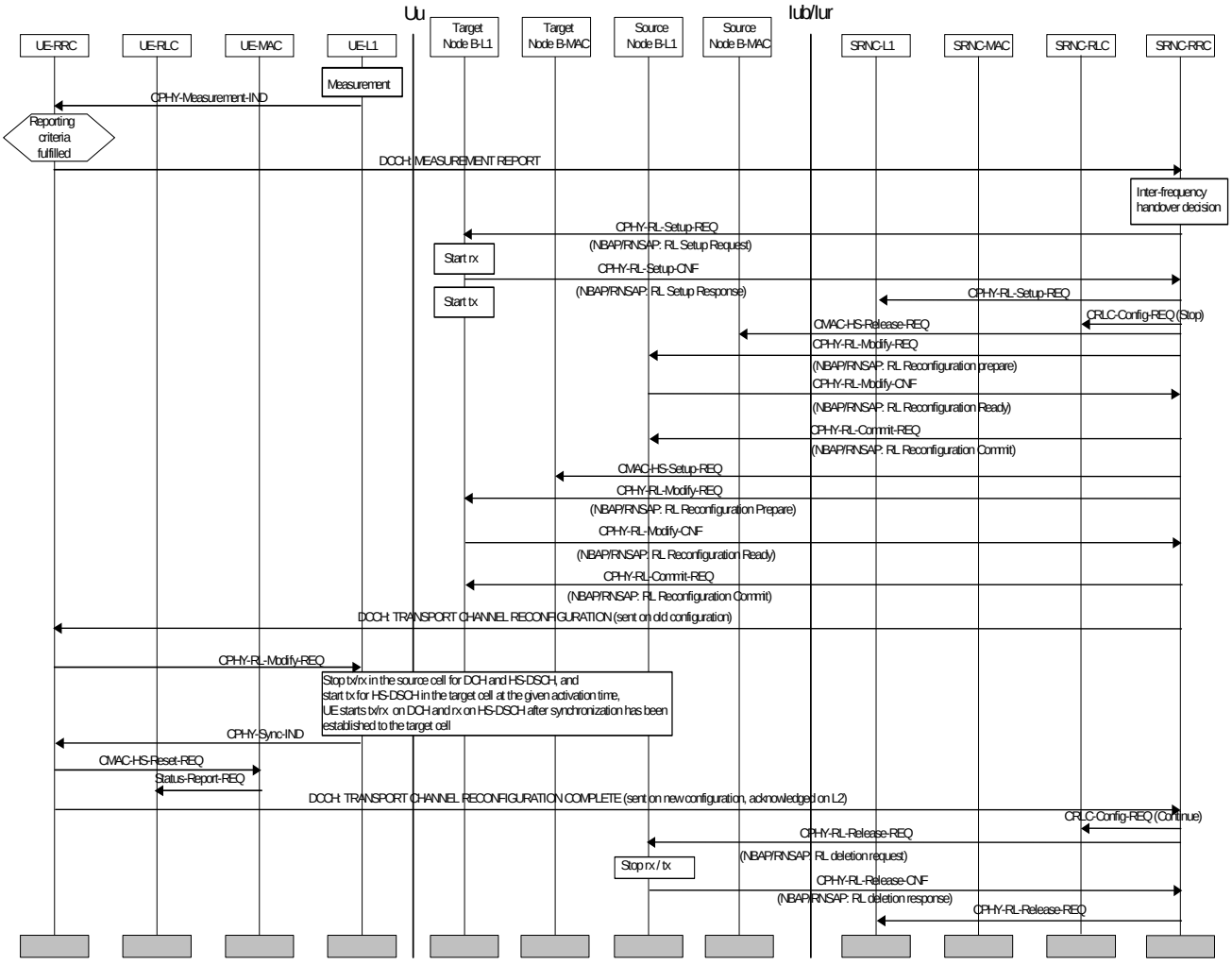

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