Technical Specification Group Radio Access Network
Marco Island, USA 4 - 7 June 2002

RP#16(02) 0419

TSG_Doc_Num	Specification	CR_Num	Revision_Num	3G_Release	CR_Subject	CR_Category	Cur_Ver_Num	New_Ver_Num	Tdoc_Num	WorkItem
RP-020419	25.423	617		Rel-4	Clarification on the Neighboring TDD Cell Measurement	F	4.4.0	4.5.0	R3-021243	TEI
RP-020419	25.423	618		Rel-5	Clarification on the Neighboring TDD Cell Measurement	A	5.0.0	5.1.0	R3-021244	TEI
RP-020419	25.423	647		Rel-4	Definition of quality figures for SFN-SFN and Tutran-gps	F	4.4.0	4.5.0	R3-021351	LCS1-UEPos-
RP-020419	25.423	648		Rel-5	Definition of quality figures for SFN-SFN and Tutran-gps	A	5.0.0	5.1.0	R3-021352	LCS1-UEPos-
RP-020419	25.423	650	1	Rel-4	Clarification to the RNSAP RL Congestion procedure	F	4.4.0	4.5.0	R3-021582	TEI
RP-020419	25.423	663	1	Rel-5	Clarification to the RNSAP RL Congestion procedure	A	5.0.0	5.1.0	R3-021583	TEI

3GPP TSG-RAN WG3 Meeting #29 **R3-021243**
Gyeongju, Korea, 13th – 17th May 2002

CR-Form-v3

CHANGE REQUEST

⌘ **25.423** **CR** **617** ⌘ rev ⌘ Current version: **4.4.0** ⌘

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

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

Title:	⌘	Clarification on the Neighbouring TDD Cell Measurement Information
Source:	⌘	R-WG3
Work item code:	⌘	TEI
Date:	⌘	May 2002
Category:	⌘	**F**
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 "Neighbouring TDD Cell Measurement Information" IE contains two optional IEs which are not explained in the procedure text.
Summary of change:	⌘	Procedure text is added in the "Neighbouring TDD Cell Measurement Information" IE. Impact Analysis: Impact assessment towards the previous version of the specification (same release): This CR has no impact.
Consequences if not approved:	⌘	If this CR is not approved, procedure text is missing in the "Neighbouring TDD Cell Measurement Information" IE.

Clauses affected:	⌘	9.2.1.41H		
Other specs affected:	⌘	**X** Other core specifications	⌘	25.423 v5.0.0 CR 25.433 v4.4.0 CR 25.433 v5.0.0 CR
		☐ 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:

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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.

9.2.1.41H Neighbouring TDD Cell Measurement Information

This IE provides information on the 3.84Mcps TDD neighbouring cells used for the purpose of measurements. Since the measurement can be performed on every time slot and midamble shift, the *Time slot* IE and *Midamble shift and burst type* IE shall be included if available.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
UTRAN Cell Identifier	M		9.2.1.71	
UARFCN	M		9.2.1.66	Corresponds to Nt [15]
Cell Parameter ID	M		9.2.1.8	
Time slot	O		9.2.1.56	
Midamble shift and burst type	O		9.2.3.4	

3GPP TSG-RAN WG3 Meeting #29
Gyeongju, Korea, 13th – 17th May 2002

R3-021244

CR-Form-v3

CHANGE REQUEST

⌘ **25.423** **CR** **618** ⌘ rev ⌘ Current version: **5.0.0** ⌘

*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:	⌘	Clarification on the Neighbouring TDD Cell Measurement Information
Source:	⌘	R-WG3
Work item code:	⌘	TEI
Date:	⌘	May 2002
Category:	⌘	**A**
Release:	⌘	REL-5

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)*
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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:	⌘	The “Neighbouring TDD Cell Measurement Information” IE contains two optional IEs which are not explained in the procedure text.
Summary of change:	⌘	Procedure text is added in the “Neighbouring TDD Cell Measurement Information” IE. Impact Analysis: Impact assessment towards the previous version of the specification (same release): This CR has no impact.
Consequences if not approved:	⌘	If this CR is not approved, procedure text is missing in the “Neighbouring TDD Cell Measurement Information” IE.

Clauses affected:	⌘	9.2.1.47D		
Other specs affected:	⌘	**X** Other core specifications	⌘	25.423 v4.4.0 CR 617 25.433 v4.4.0 CR 651 25.433 v5.0.0 CR 652
		☐ Test specifications		
		☐ O&M Specifications		
Other comments:	⌘			

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9.2.1.41H Neighbouring TDD Cell Measurement Information

This IE provides information on the 3.84Mcps TDD neighbouring cells used for the purpose of measurements. Since the measurement can be performed on every time slot and midamble shift, the *Time slot* IE and *Midamble shift and burst type* IE shall be included if available.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
UTRAN Cell Identifier	M		9.2.1.71	
UARFCN	M		9.2.1.66	Corresponds to Nt [15]
Cell Parameter ID	M		9.2.1.8	
Time slot	O		9.2.1.56	
Midamble shift and burst type	O		9.2.3.4	

3GPP TSG-RAN WG3 Meeting #29 **R3-021351**
Gyeongju, Korea, 13-17 May, 2002

CR-Form-v3

CHANGE REQUEST

⌘ **25.423** **CR** **647** ⌘ rev **-** ⌘ Current version: **4.4.0** ⌘

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

Title:	⌘	Definition of quality figures for SFN-SFN and Tutran-gps measurement value information
Source:	⌘	R-WG3
Work item code:	⌘	LCS1-UEPos-IubIur
Date:	⌘	May 2002
Category:	⌘	**F**
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)*
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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:	⌘	Standard deviation is mentioned in the specification, but the formula to calculate it, is missing. This CR is meant to clarify any ambiguities
Summary of change:	⌘	Added formulas in *SFN-SFN Quality* IE and to the *Tutran-gps Quality* IE semantics descriptions for calculating standard deviation. Impact Analysis: Impact assessment towards the previous version of the specification (same release): This CR has no impact with the previous version of the specification (same release) because standard deviation formula is known and this CR clarifies and gives reader an idea what kind of formula standard deviation is.
Consequences if not approved:	⌘	Ambiguities of quality figures still exists and this may result for poorer accuracy of UE positioning

Clauses affected:	⌘	9.2.1.52C, 9.2.1.59D		
Other specs affected:	⌘	**X** Other core specifications	⌘	TS25.433v4.4.0 CR674, TS25.433v5.0.0 CR675, TS25.423v5.0.0 CR648
		☐ Test specifications		
		☐ O&M Specifications		
Other comments:	⌘			

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

9.2.1.52C SFN-SFN Measurement Value Information

The SFN-SFN Measurement Value Information IE indicates the measurement result related to SFN-SFN Observed Time Difference measurements as well as other related information.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Successful Neighbouring cell SFN-SFN Observed Time Difference Measurement Information		*1..<maxnoofMeasNCell>*		
>UTRAN Cell Identifier			9.2.1.71	
>SFN-SFN Value	M		9.2.1.77	
>SFN-SFN Quality	O		INTEGER(0..255)	Indicates the standard deviation (std) of the SFN-SFN otd (observed time difference) measurements in 1/16 chip. SFN-SFN Quality = $\sqrt{E[(x-\mu)^2]}$ = std of reported SFN-SFN Value, where x is the reported SFN-SFN Value and $\mu = E[x]$ is the expectation value of x.
>SFN-SFN Drift Rate	M		INTEGER(-100..100)	Indicates the SFN-SFN drift rate in 1/256 chip per second. A positive value indicates that the Reference cell clock is running at a greater frequency than the measured neighbouring cell.
>SFN-SFN Drift Rate Quality	M		INTEGER(0..100)	Indicates the standard deviation (std) of the SFN-SFN drift rate measurements in 1/256 chip per second. SFN-SFN Drift Rate Quality = $\sqrt{E[(x-\mu)^2]}$ = std of reported SFN-SFN Drift Rate, where x is the reported SFN-SFN Drift Rate and $\mu = E[x]$ is the expectation value of x.
>SFN-SFN Measurement Time Stamp	M		9.2.1.76	
Unsuccessful Neighbouring cell SFN-SFN Observed Time Difference Measurement Information		*0..<maxnoofMeasNCell-1>*		
>UTRAN Cell Identifier			9.2.1.71	

Range bound	Explanation
MaxnoofMeasNCell	Maximum number of neighbouring cells on which measurements can be performed.

9.2.1.59D $T_{UTRAN-GPS}$ Measurement Value Information

The $T_{UTRAN-GPS}$ *Measurement Value Information* IE indicates the measurement results related to the UTRAN GPS Timing of Cell Frame for LCS measurements.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
$T_{UTRAN-GPS}$		1		Indicates the UTRAN GPS Timing of Cell Frame for LCS. According to mapping in [23] and [24]; significant values range from 0 to 37158911999999.
>MS	M		INTEGER (0..16383)	Most Significant Part
>LS	M		INTEGER (0..4294967295)	Least Significant Part
$T_{UTRAN-GPS}$ Quality	M		INTEGER(0..255)	Indicates the standard deviation (std) of the $T_{UTRAN-GPS}$ measurements in 1/16 chip. $T_{UTRAN-GPS}$ Quality = $\sqrt{E[(x-\mu)^2]}$ = std of reported $T_{UTRAN-GPS}$ Value, where x is the reported $T_{UTRAN-GPS}$ Value and $\mu = E[x]$ is the expectation value of x.
$T_{UTRAN-GPS}$ Drift Rate	M		INTEGER(-50..50)	Indicates the $T_{UTRAN-GPS}$ drift rate in 1/256 chip per second. A positive value indicates that the UTRAN clock is running at a lower frequency than GPS clock.
$T_{UTRAN-GPS}$ Drift Rate Quality	M		INTEGER(0..50)	Indicates the standard deviation (std) of the $T_{UTRAN-GPS}$ drift rate measurements in 1/256 chip per second. $T_{UTRAN-GPS}$ Drift Rate Quality = $\sqrt{E[(x-\mu)^2]}$ = std of reported $T_{UTRAN-GPS}$ Drift Rate, where x is the reported $T_{UTRAN-GPS}$ Drift Rate and $\mu = E[x]$ is the expectation value of x.

3GPP TSG-RAN WG3 Meeting #29 ***R3-021352***
Gyeongju, Korea, 13-17 May, 2002

CR-Form-v3

CHANGE REQUEST

⌘ **25.423** **CR** **648** ⌘ rev **-** ⌘ Current version: **5.0.0** ⌘

*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:	⌘	Definition of quality figures for SFN-SFN and Tutran-gps measurement value information
Source:	⌘	R-WG3
Work item code:	⌘	LCS1-UEPos-IublIur
Date:	⌘	May 2002
Category:	⌘	**A**
Release:	⌘	REL-5

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)*
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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:	⌘	Standard deviation is mentioned in the specification, but the formula to calculate it, is missing. This CR is meant to clarify any ambiguities
Summary of change:	⌘	Added formulas in *SFN-SFN Quality* IE and to the *Tutran-gps Quality* IE semantics descriptions for calculating standard deviation. Impact Analysis: Impact assessment towards the previous version of the specification (same release): This CR has no impact with the previous version of the specification (same release) because standard deviation formula is known and this CR clarifies and gives reader an idea what kind of formula standard deviation is.
Consequences if not approved:	⌘	Ambiguities of quality figures still exists and this may result for poorer accuracy of UE positioning

Clauses affected:	⌘	9.2.1.52C, 9.2.1.59D		
Other specs affected:	⌘	**X** Other core specifications	⌘	TS25.433v4.4.0 CR674, TS25.423v4.4.0 CR647, TS25.433v5.0.0 CR675
		☐ Test specifications		
		☐ O&M Specifications		
Other comments:	⌘			

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9.2.1.52C SFN-SFN Measurement Value Information

The SFN-SFN Measurement Value Information IE indicates the measurement result related to SFN-SFN Observed Time Difference measurements as well as other related information.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Successful Neighbouring cell SFN-SFN Observed Time Difference Measurement Information		*1..<maxnoofMeasNCell>*		
>UTRAN Cell Identifier			9.2.1.71	
>SFN-SFN Value	M		9.2.1.77	
>SFN-SFN Quality	O		INTEGER(0..255)	Indicates the standard deviation (std) of the SFN-SFN otd (observed time difference) measurements in 1/16 chip. SFN-SFN Quality = $\sqrt{E[(x-\mu)^2]}$ = std of reported SFN-SFN Value, where x is the reported SFN-SFN Value and $\mu = E[x]$ is the expectation value of x.
>SFN-SFN Drift Rate	M		INTEGER(-100..100)	Indicates the SFN-SFN drift rate in 1/256 chip per second. A positive value indicates that the Reference cell clock is running at a greater frequency than the measured neighbouring cell.
>SFN-SFN Drift Rate Quality	M		INTEGER(0..100)	Indicates the standard deviation (std) of the SFN-SFN drift rate measurements in 1/256 chip per second. SFN-SFN Drift Rate Quality = $\sqrt{E[(x-\mu)^2]}$ = std of reported SFN-SFN Drift Rate, where x is the reported SFN-SFN Drift Rate and $\mu = E[x]$ is the expectation value of x.
>SFN-SFN Measurement Time Stamp	M		9.2.1.76	
Unsuccessful Neighbouring cell SFN-SFN Observed Time Difference Measurement Information		*0..<maxnoofMeasNCell-1>*		
>UTRAN Cell Identifier			9.2.1.71	

Range bound	Explanation
MaxnoofMeasNCell	Maximum number of neighbouring cells on which measurements can be performed.

9.2.1.59D $T_{UTRAN-GPS}$ Measurement Value Information

The $T_{UTRAN-GPS}$ *Measurement Value Information* IE indicates the measurement results related to the UTRAN GPS Timing of Cell Frame for LCS measurements.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
$T_{UTRAN-GPS}$		1		Indicates the UTRAN GPS Timing of Cell Frame for LCS. According to mapping in [23] and [24]; significant values range from 0 to 37158911999999.
>MS	M		INTEGER (0..16383)	Most Significant Part
>LS	M		INTEGER (0..4294967295)	Least Significant Part
$T_{UTRAN-GPS}$ Quality	M		INTEGER(0..255)	Indicates the standard deviation (std) of the $T_{UTRAN-GPS}$ measurements in 1/16 chip. $T_{UTRAN-GPS}$ Quality = $\sqrt{E[(x-\mu)^2]}$ = std of reported $T_{UTRAN-GPS}$ Value, where x is the reported $T_{UTRAN-GPS}$ Value and $\mu = E[x]$ is the expectation value of x.
$T_{UTRAN-GPS}$ Drift Rate	M		INTEGER(-50..50)	Indicates the $T_{UTRAN-GPS}$ drift rate in 1/256 chip per second. A positive value indicates that the UTRAN clock is running at a lower frequency than GPS clock.
$T_{UTRAN-GPS}$ Drift Rate Quality	M		INTEGER(0..50)	Indicates the standard deviation (std) of the $T_{UTRAN-GPS}$ drift rate measurements in 1/256 chip per second.. $T_{UTRAN-GPS}$ Drift Rate Quality = $\sqrt{E[(x-\mu)^2]}$ = std of reported $T_{UTRAN-GPS}$ Drift Rate, where x is the reported $T_{UTRAN-GPS}$ Drift Rate and $\mu = E[x]$ is the expectation value of x.

3GPP TSG-RAN3 Meeting #29 **R3-021582**
GyeongJu, South Korea, 13th – 17th May 2002

CR-Form-v4

CHANGE REQUEST

⌘ **25.423** **CR** **650** ⌘ rev **1** ⌘ Current version: **4.4.0** ⌘

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

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

Title:	⌘	Clarification to the RNSAP RL Congestion procedure
Source:	⌘	R-WG3
Work item code:	⌘	TEI
Date:	⌘	May 2002
Category:	⌘	**F**
Release:	⌘	REL-4

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

Reason for change: ⌘

At meeting#25, document R3-013670 was approved. This document brought some clarification to the RL congestion procedure, and identified two causes: dynamic and semistatic, to distinguish between the different situations where congestion may be indicated to an SRNC.

However, the procedure text is still unclear, as to when the procedure should be used, and additionally the different causes in the Congestion Indication message are not clearly defined. The reason for this CR is to clearly define the use of this procedure.

Summary of change: ⌘

Changes to the procedure text to clarify the use of the RL congestion procedure, in that it it is not a radio link being congested which triggers the procedure, but overall resources for e.g a cell. However, it is a particular radio link that the DRNC decides should be acted upon to reduce this congestion in e.g the cell.

Also, the CR clearly defines the use of the two causes: semi-static and dynamic. R1: Minor aditorial change.

Impact Analysis:

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) because additional behaviour is specified.

The impact can be considered isolated because the change affects one function.

Consequences if not approved: ⌘

If this CR is not approved, then the RL congestion procedure may be used wrongly by the DRNC. Also if the cause values are not properly defined, then the

	SRNC may make an unnecessary or wrong decision on receiving this message.

Clauses affected:	⌘	8.3.19; 9.2.1.79			
Other specs affected:	⌘	X	Other core specifications	⌘	TS25.423 v5.0.0 (CR663)
			Test specifications		
			O&M Specifications		
Other comments:	⌘				

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

8.3.19 Radio Link Congestion

8.3.19.1 General

This procedure is started by the DRNS when ~~RL~~ resource congestion is detected and the rate of one or more DCHs, corresponding to one or more radio links, is preferred ~~need~~ to be limited in the UL and/or DL. This procedure is also used by the DRNC to indicate to the SRNC any change of the UL/DL ~~DCH~~ resource congestion situation, affecting these radio links. This procedure shall use the signalling bearer connection for the relevant UE context.

The Radio Link Congestion procedure shall not be initiated if a Prepared Reconfiguration exists, as defined in subclause 3.1.

8.3.19.2 Successful Operation

Figure 26C: Radio Link Congestion procedure, Successful Operation

Start of an UL/DL ~~DCH~~ Resource Congestion Situation

When the DRNC detects ~~a~~ the start of a UL/DL ~~DCH~~resource congestion situation and prefers the rate of one or more DCHs for one or more radio links to be limited below the maximum rate currently configured in the UL/DL TFS, it shall send the RADIO LINK CONGESTION INDICATION message to the SRNC. The DRNC shall indicate the cause of the congestion in the *Congestion Cause* IE and shall indicate all the Radio Links for which the rate of a DCH needs to be reduced.

When receiving the RADIO LINK CONGESTION INDICATION message the SRNC should reduce the rate in accordance with the indicated congestion cause and the indicated allowed rate(s) for a DCH.

Change of UL/DL ~~DCH~~ Resource Congestion Situation

The DRNC shall indicate any change of the UL/DL ~~DCH~~ resource congestion situation by sending the RADIO LINK CONGESTION INDICATION message in which the new allowed rate of the DCHs are indicated by the *Allowed Rate Information* IE. In the case that the new allowed rate is lower than a previously indicated allowed rate, the *Congestion Cause* IE, indicating the cause of the congestion, shall also be included.

When receiving a RADIO LINK CONGESTION INDICATION message indicating a further rate decrease on any DCH(s) on any RL, the SRNC should reduce the rate in accordance with the indicated congestion cause and the indicated allowed rate(s) for a DCH.

End of UL/DL ~~DCH~~ Resource Congestion Situation

End of an UL ~~DCH~~ resource congestion situation, affecting~~for~~ a specific RL, shall be indicated by including the TF corresponding to the highest data rate in the *Allowed UL Rate* IE in the *Allowed Rate Information* IE for the concerning RL. End of a DL ~~DCH~~ resource congestion situation ~~in the DL~~, affecting ~~for~~ a specific RL, shall be indicated by including the TF with the highest data rate in the *Allowed DL Rate* IE in the *Allowed Rate Information* IE for the concerning RL.

8.3.19.3 Abnormal Conditions

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9.2.1.79 Congestion Cause

The *Congestion Cause* IE indicates the cause of a congestion situation:

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Congestion Cause			ENUMERATED (UTRAN Dynamic Resources, UTRAN Semistatic Resources, …)	

The meaning of the different congestion cause values is described in the following table:

Congestion cause	Meaning
UTRAN Dynamic Resources	UL and/or DL ~~DCH~~ resource congestion situation mainly caused by the UL and/or DL UTRAN Dynamic Resources. This type of congestion situation is, e.g. related to the limitation of the DL transmitted carrier power ~~situation~~ of the cell(s), or the UL Interference situation in the concerning cell(s).
UTRAN Semistatic Resources	UL and/or DL ~~DCH~~ resource congestion situation mainly related to UTRAN Semistatic Resources (e.g. channelisation codes, Node-B resources, ..).

3GPP TSG-RAN3 Meeting #29 **R3-021583**
GyeongJu, South Korea, 13th – 17th May 2002

CR-Form-v4

CHANGE REQUEST

⌘ **25.423** **CR** **663** ⌘ rev **1** ⌘ Current version: **5.0.0** ⌘

*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:	⌘	Clarification to the RNSAP RL Congestion procedure
Source:	⌘	R-WG3
Work item code:	⌘	TEI
Date:	⌘	May 2002
Category:	⌘	**A**
Release:	⌘	REL-5

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

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

Reason for change: ⌘

At meeting#25, document R3-013670 was approved. This document brought some clarification to the RL congestion procedure, and identified two causes: dynamic and semistatic, to distinguish between the different situations where congestion may be indicated to an SRNC.

However, the procedure text is still unclear, as to when the procedure should be used, and additionally the different causes in the Congestion Indication message are not clearly defined. The reason for this CR is to clearly define the use of this procedure.

Summary of change: ⌘

Changes to the procedure text to clarify the use of the RL congestion procedure, in that it it is not a radio link being congested which triggers the procedure, but overall resources for e.g a cell. However, it is a particular radio link that the DRNC decides should be acted upon to reduce this congestion in e.g the cell.

Also, the CR clearly defines the use of the two causes: semi-static and dynamic.
R1: Minor editorial change.

Impact Analysis:

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) because additional behaviour is specified.

The impact can be considered isolated because the change affects one function.

Consequences if not approved:	⌘	If this CR is not approved, then the RL congestion procedure may be used wrongly by the DRNC. Also if the cause values are not properly defined, then the SRNC may make an unnecessary or wrong decision on receiving this message.

Clauses affected:	⌘	8.3.19; 9.2.1.79			
Other specs affected:	⌘	**X** Other core specifications Test specifications O&M Specifications	⌘	TS25.423 v4.4.0 (CR650)	
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.

8.3.19 Radio Link Congestion

8.3.19.1 General

This procedure is started by the DRNS when ~~RL~~ resource congestion is detected and the rate of one or more DCHs, corresponding to one or more radio links, is preferred ~~need~~ to be limited in the UL and/or DL. This procedure is also used by the DRNC to indicate to the SRNC any change of the UL/DL ~~DCH~~ resource congestion situation, affecting these radio links. This procedure shall use the signalling bearer connection for the relevant UE context.

The Radio Link Congestion procedure shall not be initiated if a Prepared Reconfiguration exists, as defined in subclause 3.1.

8.3.19.2 Successful Operation

Figure 26C: Radio Link Congestion procedure, Successful Operation

Start of an UL/DL ~~DCH~~ Resource Congestion Situation

When the DRNC detects ~~a~~ the start of a UL/DL ~~DCH~~resource congestion situation and prefers the rate of one or more DCHs for one or more radio links to be limited below the maximum rate currently configured in the UL/DL TFS, it shall send the RADIO LINK CONGESTION INDICATION message to the SRNC. The DRNC shall indicate the cause of the congestion in the *Congestion Cause* IE and shall indicate all the Radio Links for which the rate of a DCH needs to be reduced.

When receiving the RADIO LINK CONGESTION INDICATION message the SRNC should reduce the rate in accordance with the indicated congestion cause and the indicated allowed rate(s) for a DCH.

Change of UL/DL ~~DCH~~ Resource Congestion Situation

The DRNC shall indicate any change of the UL/DL ~~DCH~~ resource congestion situation by sending the RADIO LINK CONGESTION INDICATION message in which the new allowed rate of the DCHs are indicated by the *Allowed Rate Information* IE. In the case that the new allowed rate is lower than a previously indicated allowed rate, the *Congestion Cause* IE, indicating the cause of the congestion, shall also be included.

When receiving a RADIO LINK CONGESTION INDICATION message indicating a further rate decrease on any DCH(s) on any RL, the SRNC should reduce the rate in accordance with the indicated congestion cause and the indicated allowed rate(s) for a DCH.

End of UL/DL ~~DCH~~ Resource Congestion Situation

End of an UL ~~DCH~~ resource congestion situation, affecting~~for~~ a specific RL, shall be indicated by including the TF corresponding to the highest data rate in the *Allowed UL Rate* IE in the *Allowed Rate Information* IE for the concerning RL. End of a DL ~~DCH~~ resource congestion situation ~~in the DL~~, affecting ~~for~~ a specific RL, shall be indicated by including the TF with the highest data rate in the *Allowed DL Rate* IE in the *Allowed Rate Information* IE for the concerning RL.

8.3.19.3 Abnormal Conditions

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