

**TSG-RAN Meeting #8
Düsseldorf, Germany, 21 - 23 June 2000**

RP-000288

Source: Secretary, Vice-Chairman

Title: Collection of approved WI sheets TSG-RAN #7

To: TSG-RAN

This document contains the approved versions of WI sheets (by e-mail after TSG-RAN #7) for all approved Work Items. Those of the approved study items are provided in a separate document. For "Low chip rate TDD option", more detailed WI sheets are provided in separate documents.

The Work Items approved in TSG-RAN #7 were:

1. Low chip rate TDD option
2. Base station classification
3. FDD Base station classification
4. TDD Base stations classification
5. Support of Location Services in UTRA TDD
6. Support of Location Services in UTRA FDD
7. Hybrid ARQ II/III
8. NodeB Synchronisation for TDD
9. UTRA Repeater Specification
10. QoS optimization for AAL type 2 connections over Iub and Iur interfaces
11. Terminal power saving features
12. Handover for real-time services from PS-Domain
13. RAB Quality of Service Negotiation over Iu
14. RRM optimizations
15. Radio access bearer support enhancement
16. Compressed mode enhancements
17. Support of Multiple CCTrCH in downlink (FDD)

1 Low chip rate TDD option

Distributed as: -

Provided in separate documents.

2. Base station classification

Distributed as: RP-000186

Work Item Description

Title

BS classification

1 3GPP Work Area

X	Radio Access
	Core Network
	Services

2 Linked work items

None

3 Justification

This work item proposes a building block for new base station classifications

4 Objective

This is the parent building block for the TDD and FDD basestation classification work tasks. Technical details for the work tasks can be found in TDoc RP-000132, and RP-000183

5 Service Aspects

None

6 MMI-Aspects

None

7 Charging Aspects

None

8 Security Aspects

None

9 Impacts

Affects :	USIM	ME	AN	CN	Others
Yes			X		
No	X	X		X	
Don't know					

10 Expected Output and Time scale (to be updated at each plenary)

New specifications						
Spec No.	Title	Prime resp. WG	2ndary resp. WG(s)	Presented for information at plenary#	Approved at plenary#	Comments
		R4		RAN #9	RAN #10	
Affected existing specifications						
Spec No.	CR	Subject		Approved at plenary#	Comments	

11 Work item raporteurs

Antti Toscala, Nokia

12 Work item leadership

RAN WG4

13 Supporting Companies

Motorola, Nokia, Siemens, T-Mobil

14 Classification of the WI (if known)

	Feature (go to 14a)
X	Building Block (go to 14b)
	Work Task (go to 14c)

14b The WI is a Building Block: parent Feature – Radio Interface Improvement

3. FDD Base station classification

Distributed as: RP-000183

Work Item Description

Title

FDD Base Station Classification

1 3GPP Work Area

X	Radio Access
	Core Network
	Services

2 Linked work items

none

3 Justification

Current TSG RAN WG4 specifications have been done according to the requirements for the macrocell base stations (NodeBs). For the UTRA evolution requirements specific for other type of base stations are needed as well (e.g. micro, pico)

4 Objective

- definition of base station classes according to deployment scenarios (e.g. macro, micro, pico)
- identification, review and possible update of radio parameters dependent on deployment scenarios
- identification, review and possible update of UTRAN (Node B) measurement requirements and conformance where the maximum base station output power is reflected, dependent on deployment scenarios
- review and possible update of conformance test specifications
- recording of related information into RF System Scenarios

The following time schedule is considered for TSG RAN:

Task	Planned Start	Planned Finish
Work Item Creation	3/2000	3/2000

Work Item Approval		3/2000
Update on TR 25.942	5/2000	9/2000
Submission to TSG RAN for approval		12/2000

5 Service Aspects

None

6 MMI-Aspects

None

7 Charging Aspects

None

8 Security Aspects

None

9 Impacts

Affects :	USIM	ME	AN	CN	Others
Yes			X		
No	X	X		X	
Don't know					

10 Expected Output and Time scale (to be updated at each plenary)

New specifications						
Spec No.	Title	Prime rsp. WG	2ndary rsp. WG(s)	Presented for information at plenary#	Approved at plenary#	Comments
Affected existing specifications						
Spec No.	CR	Subject		Approved at plenary#	Comments	
25.104		UTRA (BS) FDD, Radio Transmission and Reception		RAN #10		
25.141		Base Station Conformance Testing (FDD)		RAN #10		
25.133		Requirements for Support of Radio Resource Management (FDD)		RAN #10	?	

25.942		RF System Scenarios	RAN #9	
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11 Work item raporteurs

To be decided by TSG RAN WG4

12 Work item leadership

TSG RAN WG4

13 Supporting Companies

Nokia, Motorola, Ericsson, T-Mobil

14 Classification of the WI (if known)

	Feature (go to 14a)
	Building Block (go to 14b)
X	Work Task (go to 14c)

14a The WI is a Feature: List of building blocks under this feature

(list of Work Items identified as building blocks)

14b The WI is a Building Block: parent Feature

(one Work Item identified as a feature)

14c The WI is a Work Task: parent Building Block: None

(one Work Item identified as a building block)

4. TDD Base stations classification

Distributed as: RP-000185

Work Item Description

Title

TDD Base Station Classification

1 3GPP Work Area

X	Radio Access
	Core Network
	Services

2 Linked work items

none

3 Justification

Current TSG RAN WG4 specifications have been done according to the requirements for the macrocell base stations (NodeBs). For the UTRA evolution requirements specific for other type of base stations are needed as well (e.g. micro, pico)

4 Objective

- definition of base station classes according to deployment scenarios (e.g. macro, micro, pico)
- identification, review and possible update of radio parameters dependent on deployment scenarios
- identification, review and possible update of UTRAN (Node B) measurement requirements and conformance where the maximum base station output power is reflected, dependent on deployment scenarios
- review and possible update of conformance test specifications
- recording of related information into RF System Scenarios

The following time schedule is considered for TSG RAN:

Task	Planned Start	Planned Finish
Work Item Creation	3/2000	3/2000

Work Item Approval		3/2000
Update on TR 25.942	5/2000	9/2000
Submission to TSG RAN for approval		12/2000

5 Service Aspects

None

6 MMI-Aspects

None

7 Charging Aspects

None

8 Security Aspects

None

9 Impacts

Affects :	USIM	ME	AN	CN	Others
Yes			X		
No	X	X		X	
Don't know					

10 Expected Output and Time scale (to be updated at each plenary)

New specifications						
Spec No.	Title	Prime rsp. WG	2ndary rsp. WG(s)	Presented for information at plenary#	Approved at plenary#	Comments
Affected existing specifications						
Spec No.	CR	Subject		Approved at plenary#	Comments	
25.105		UTRA (BS) TDD, Radio Transmission and Reception		RAN #10		
25.142		Base Station Conformance Testing (TDD)		RAN #10		
25.123		RF parameters in support of RRM (TDD)		RAN #10	?	
25.942		RF System Scenarios		RAN #9		

11 Work item raporteurs

To be decided by TSG RAN WG4

12 Work item leadership

TSG RAN WG4

13 Supporting Companies

Motorola, Nokia, Siemens, InterDigital.

14 Classification of the WI (if known)

	Feature (go to 14a)
	Building Block (go to 14b)
X	Work Task (go to 14c)

14a The WI is a Feature: List of building blocks under this feature

(list of Work Items identified as building blocks)

14b The WI is a Building Block: parent Feature

(one Work Item identified as a feature)

14c The WI is a Work Task: parent Building Block: None

(one Work Item identified as a building block)

5. Support of Location Services in UTRA TDD

Distributed as: RP-000053rev

Work Item Description

Title

Support of Location Services in UTRA TDD

1 3GPP Work Area

X	Radio Access
	Core Network
	Services

2 Linked work items

Support of Location Services in UTRA FDD

3 Justification

LoCation Services provide the mechanisms to support mobile location services for operators, subscribers and third party service providers. Currently, in UTRA TDD LoCation Services (LCS) are supported only based on the CellID or on external system assisted methods.

In order to fulfill higher requirements with respect to the accuracy of the positioning methods, additional capabilities to determine the (geographic) location of the user equipment (UE) mobile station, e.g. by making use of the UTRAN radio signals have to be provided.

4 Objective

The purpose of this work item is to define the signal measurements, protocol elements and operations both in UTRAN and UE to support location methods with increased accuracy.

The following time schedule is considered for TSG RAN:

Task	Planned Start	Planned Finish
Work Item Creation	3/2000	3/2000
Work Item Approval		3/2000
Drafting and discussion, updates of specifications	4/2000	9/2000
Submission to TSG RAN for approval		9/2000

Possible remaining corrections and clarifications	09/2000	12/2000
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5 Service Aspects

None

6 MMI-Aspects

None

7 Charging Aspects

None

8 Security Aspects

None

9 Impacts

Affects :	USIM	ME	AN	CN	Others
Yes		X	X		
No	X			X	
Don't know					

10 Expected Output and Time scale (to be updated at each plenary)

New specifications						
Spec No.	Title	Prime resp. WG	2ndary resp. WG(s)	Presented for information at plenary#	Approved at plenary#	Comments
Affected existing specifications						
Spec No.	CR	Subject		Approved at plenary#		Comments
25.123		Requirements for Support of Radio Resource Management (TDD)		RAN #9		
25.224		Physical Layer Procedures (TDD)		RAN #9		
25.225		Physical layer – Measurements (TDD)		RAN #9		
25.301		Radio Interface Protocol Architecture		RAN #9		

25.302	Services provided by the physical layer	RAN #9	
25.303	Interlayer procedures in connected mode	RAN #9	
25.304	UE Procedures in Idle Mode and Procedures for Cell Reselection in Connected Mode	RAN #9	
25.305	Stage 2 Functional Specification of Location Services in UTRAN	RAN #9	
25.321	MAC Protocol Specification	RAN #9	
25.331	RRC Protocol Specification	RAN #9	
25.401	UTRAN Overall Description	RAN #9	
25.420	UTRAN Iur Interface: General Aspects and Principles	RAN #9	
25.423	UTRAN Iur Interface RNSAP Signalling	RAN #9	
25.430	UTRAN Iub Interface: General Aspects and Principles	RAN #9	
25.433	UTRAN Iub Interface NBAP Signalling	RAN #9	

11 Work item rapporteurs

Armin Sitte, Siemens AG

12 Work item leadership

RAN WG2

13 Supporting Companies

Interdigital Communications, Nokia, NTT DoCoMo, Siemens

14 Classification of the WI (if known)

	Feature (go to 14a)
X	Building Block (go to 14b)
	Work Task (go to 14c)

14a The WI is a Feature: List of building blocks under this feature

(list of Work Items identified as building blocks)

14b The WI is a Building Block: parent Feature

LCS feature

14c The WI is a Work Task: parent Building Block

(one Work Item identified as a building block)

6. Support of Location Services in UTRA FDD

Distributed as: RP-000135

Work Item Description

Title

"Support of Location Services in UTRA FDD"

1 3GPP Work Area

X	Radio Access
	Core Network
	Services

2 Linked work items

"Support of Location Services in UTRA TDD"

3 Justification

"Support of LoCation Services in UTRA FDD" provides the necessary UTRAN functionality to support standard location services for operators, subscribers and third party service providers. Standard location services are defined as the:

- cell coverage based positioning method;
- OTDOA method with network configurable idle periods; and
- network assisted GPS method.

It is essential to fulfil: higher requirements with respect to the accuracy of the positioning methods and lower UTRAN complexity. Consequently, additional capabilities to determine the (geographic) location of the user equipment (UE) mobile station, e.g. by making use of the UTRAN radio signals, have to be provided.

4 Objective

The purpose of this work item is to define the signal measurements, protocol elements and operations both in UTRAN and UE to support location methods with increased accuracy and reduced UTRAN complexity.

The following time schedule is considered for TSG RAN:

Task	Planned Start	Planned Finish
Work Item Creation	3/2000	3/2000

Work Item Approval		3/2000
Drafting and discussion, updates of specifications	4/2000	9/2000
Submission to TSG RAN for approval		9/2000
Possible remaining corrections and clarifications	09/2000	12/2000

5 Service Aspects

None

6 MMI-Aspects

None

7 Charging Aspects

None

8 Security Aspects

None

9 Impacts

Affects :	USIM	ME	AN	CN	Others
Yes		X	X		
No	X			X	
Don't know					

10 Expected Output and Time scale (to be updated at each plenary)

New specifications						
Spec No.	Title	Prime rsp. WG	2ndary rsp. WG(s)	Presented for information at plenary#	Approved at plenary#	Comments
Affected existing specifications						
Spec No.	CR	Subject		Approved at plenary#		Comments
25.133		Requirements for support of RRM (FDD)		RAN #9		
25.141		Base Station Conformance Testing (FDD)		RAN #9		

25.215	Physical layer – Measurements (FDD)	RAN #9	
25.301	Radio Interface Protocol Architecture	RAN #9	
25.302	Services provided by the physical layer	RAN #9	
25.303	Interlayer procedures in connected mode	RAN #9	
25.304	UE Procedures in Idle Mode and Procedures for Cell Reselection in Connected Mode	RAN #9	
25.305	Stage 2 Functional Specification of Location Services in UTRAN	RAN #9	
25.321	MAC Protocol Specification	RAN #9	
25.331	RRC Protocol Specification	RAN #9	
25.401	UTRAN Overall Description	RAN #9	
25.420	UTRAN Iur Interface: General Aspects and Principles	RAN #9	
25.423	UTRAN Iur Interface RNSAP Signalling	RAN #9	
25.430	UTRAN Iub Interface: General Aspects and Principles	RAN #9	
25.433	UTRAN Iub Interface NBAP Signalling	RAN #9	

11 Work item rapporteur

Ian Corden (Lucent Technologies): icorden@lucent.com

12 Work item leadership

To be decided by TSG RAN

13 Supporting Companies

ERICSSON, LUCENT TECHNOLOGIES, NOKIA, NORTEL

14 Classification of the WI (if known)

	Feature (go to 14a)
	Building Block (go to 14b)

	Work Task (go to 14c)
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14a The WI is a Feature: List of building blocks under this feature

(list of Work Items identified as building blocks)

14b The WI is a Building Block: parent Feature

(one Work Item identified as a feature)

14c The WI is a Work Task: parent Building Block

(one Work Item identified as a building block)

7. Hybrid ARQ II/III

Distributed as: RP-000054rev

Work Item Description

Title

Hybrid ARQ type II/III

1 3GPP Work Area

X	Radio Access
	Core Network
	Services

2 Linked work items

none

3 Justification

This feature has been shown to have the potential of efficiently enhancing the performance of packet data transmission by transmitting incremental redundancy at the request of the receiver.

4 Objective

In order to support the general mechanism, required signalling, and combining of existing information with incremental redundancy, the specifications for physical layer, as well as for higher layers and testing will be changed and/or extended. Note that Hybrid ARQ type I with soft combining is a special case of Hybrid ARQ type II.

The following time schedule is considered for TSG RAN:

Task	Planned Start	Planned Finish
Work Item Creation	3/2000	3/2000
Work Item Approval		3/2000
Drafting and discussion	4/2000	6/2000
Updates of Specifications	6/2000	9/2000
Submission to TSG RAN for approval		9/2000
Possible remaining corrections and clarifications	09/2000	12/2000

5 Service Aspects

None

6 MMI-Aspects

None

7 Charging Aspects

None

8 Security Aspects

None

9 Impacts

Affects :	USIM	ME	AN	CN	Others
Yes		X	X		
No	X			X	
Don't know					

10 Expected Output and Time scale (to be updated at each plenary)

New specifications						
Spec No.	Title	Prime rsp. WG	2ndary rsp. WG(s)	Presented for information at plenary#	Approved at plenary#	Comments
Affected existing specifications						
Spec No.	CR	Subject		Approved at plenary#	Comments	
25.211		Physical channels and mapping of transport channels onto physical channels (FDD)		RAN #9		
25.212		Multiplexing and Channel Coding (FDD)		RAN #9		
25.214		Physical Layer Procedures (FDD)		RAN #9		
25.221		Physical channels and mapping of transport channels onto physical channels (TDD)		RAN #9		

25.222	Multiplexing and Channel Coding (TDD)	RAN #9	
25.224	Physical Layer Procedures (TDD)	RAN #9	
25.301	Radio Interface Protocol Architecture	RAN #9	
25.302	Services provided by the physical layer	RAN #9	
25.303	Interlayer procedures in connected mode	RAN #9	
25.304	UE Procedures in Idle Mode and Procedures for Cell Reselection in Connected Mode	RAN #9	
25.321	MAC Protocol Specification	RAN #9	
25.322	RLC Protocol Specification	RAN #9	
25.331	RRC Protocol Specification	RAN #9	
25.401	UTRAN Overall Description	RAN #9	
25.420	UTRAN Iur Interface: General Aspects and Principles	RAN #9	
25.423	UTRAN Iur Interface RNSAP Signalling	RAN #9	
25.425	UTRAN Iur interface user plane protocols for CCH data streams	RAN #9	
25.430	UTRAN Iub Interface: General Aspects and Principles	RAN #9	
25.433	UTRAN Iub Interface NBAP Signalling	RAN #9	
25.435	UTRAN Iub interface user plane protocols for CCH data streams	RAN #9	

11 Work item rapporteurs

Armin Sitte, Siemens AG

12 Work item leadership

RAN WG2

13 Supporting Companies

Interdigital Communications, Nokia, NTT DoCoMo, Siemens

14 **Classification of the WI (if known)**

	Feature (go to 14a)
X	Building Block (go to 14b)
	Work Task (go to 14c)

14a The WI is a Feature: List of building blocks under this feature

(list of Work Items identified as building blocks)

14b The WI is a Building Block: parent Feature

Radio Interface Improvements

14c The WI is a Work Task: parent Building Block

(one Work Item identified as a building block)

8. NodeB Synchronisation for TDD

Distributed as: RP-000055rev

Work Item Description

Title

NodeB Synchronisation for UTRA TDD mode

1 3GPP Work Area

X	Radio Access
	Core Network
	Services

2 Linked work items

none

3 Justification

NodeB synchronisation is beneficial in UTRA TDD to minimise cross-interference in neighbouring cells. Currently, no method has been specified how NodeB synchronisation can be achieved with UTRAN's and UE's internal resources such as signalling via the air interface.

The following benefits of the introduction of NodeB synchronisation by means of internal resources are seen:

- A substantial reduction of the cost of the transmission network.
- An autonomous synchronisation procedure without the need of external references.
- An easily extendable method for the purpose of inter-system NodeB synchronisation.

4 Objective

The purpose of this new work item is to enable the synchronisation of NodeBs in UTRA TDD by means of UTRAN's and UE's internal resources such as air interface signals and NodeB cross measurements. NodeB synchronisation involves

- radio frame und multi frame synchronisation and
- intra-system and inter-system synchronisation.

The following time schedule is considered for TSG RAN:

Task	Planned Start	Planned
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		Finish
Work Item Creation	3/2000	3/2000
Work Item Approval		3/2000
Drafting and discussion, updates of specifications	4/2000	9/2000
Submission to TSG RAN for approval		9/2000
Possible remaining corrections and clarifications	09/2000	12/2000

5 Service Aspects

None

6 MMI-Aspects

None

7 Charging Aspects

None

8 Security Aspects

None

9 Impacts

Affects :	USIM	ME	AN	CN	Others
Yes		X	X		
No	X			X	
Don't know					

10**Expected Output and Time scale (to be updated at each plenary)**

New specifications						
Spec No.	Title	Prime rsp. WG	2ndary rsp. WG(s)	Presented for information at plenary#	Approved at plenary#	Comments
Affected existing specifications						
Spec No.	CR	Subject		Approved at plenary#	Comments	
25.123		Requirements for Support of Radio Resource Management (TDD)		RAN #9		
25.221		Physical channels and mapping of transport channels onto physical channels (TDD)		RAN #9		
25.224		Physical Layer Procedures (TDD)		RAN #9		
25.225		Physical layer – Measurements (TDD)		RAN #9		
25.301		Radio Interface Protocol Architecture		RAN #9		
25.302		Services provided by the physical layer		RAN #9		
25.303		Interlayer procedures in connected mode		RAN #9		
25.321		MAC Protocol Specification		RAN #9		
25.331		RRC Protocol Specification		RAN #9		
25.402		Synchronisation in UTRAN Stage 2		RAN #9		
25.433		UTRAN Iub Interface NBAP Signalling		RAN #9		
25.423		UTRAN Iur Interface RNSAP Signalling		RAN #9		

11**Work item rapporteurs**

Anja Klein, Siemens AG
Stefan Oestreich, Siemens AG

12**Work item leadership**

RAN WG1

13**Supporting Companies**

Interdigital Communications, Nokia, NTT DoCoMo, Siemens, Vodafone
AirTouch

14 Classification of the WI (if known)

	Feature (go to 14a)
X	Building Block (go to 14b)
	Work Task (go to 14c)

14a The WI is a Feature: List of building blocks under this feature
(list of Work Items identified as building blocks)

14b The WI is a Building Block: parent Feature

Radio Interface Improvements and RAN Improvements Features
14c The WI is a Work Task: parent Building Block

(one Work Item identified as a building block)

9. UTRA Repeater Specification

Distributed as: RP-000083rev

Work Item Description

Title

UTRA repeater specification

This document contains the description of the work item “UTRA repeater specification”.

A feasibility study of repeaters in UTRA have been performed and presented at RAN WG4 #10 meeting as document R4-000012. This document was endorsed by RAN WG4 in San Jose, US.

1 3GPP work area

Radio Access

2 Linked work items

None

3 Justification

Repeaters have proven to be useful for extending the coverage into buildings, train/car tunnels, subways, highways, etc in 2nd generation systems. Also, by installing repeaters at the sector borders or in highly dense areas, the transmitted power from the MS and the BS could possibly be lowered, leading to an improvement in C/I and thereby capacity.

For the installation of repeaters in cellular networks a specification is needed in e.g. Europe due to regulatory requirements.

For operators without the capability of handover to 2nd generation systems, extending the coverage of UTRA will be of importance especially at the initial rollout stage. For operators with capability of handover to 2nd generation systems, user requirements (e.g. high data rates) may not be met by those systems and extended UTRA coverage might be needed.

4 Objective

The objective of the work item is to create a technical specification of the UTRA repeater's minimum RF characteristics which, at least, should include:

- Spurious emissions
- Intermodulation products
- Out of band gain

- Frequency stability
- Modulation accuracy
- Blocking characteristics

In addition to the minimum RF characteristics, conformance requirements and Electro Magnetic Compatibility (EMC) shall also be specified.

5 Service Aspects

The use of repeater in a network may reduce the performance of the LCS method OTDOA. This is addressed in more detail in document R4-000012.

6 MMI-Aspects

None

7 Charging Aspects

None

8 Security Aspects

None

9 Impacts

Affects:	USIM	ME	Access Network	Core Network	Others
Yes			X		
No	X	X		X	
Don't know					

10 Expected Output and Time scales

New specifications						
Spec No.	Title	Prime rsp. WG	2ndary rsp. WG(s)	Presented for information at plenary#	Approved at plenary#	Comments
TS 25.xxx	UTRA Repeater; Radio transmission and reception	WG4		RAN#8	RAN#10	Repeater minimum RF characteristics
TS 25.yyy	UTRA Repeater; Conformance testing	WG4		RAN#8	RAN#10	Repeater conformance testing
Affected existing specifications						
Spec No.	CR	Subject	Approved at plenary#		Comments	
TS 25.113		UTRA Repeater EMC	RAN#10		Repeater EMC requirements	

Note: This current separation of radio requirements and conformance testing into two separate specifications is in order to be inline with the 3GPP specification structure. In order to minimise the amount of new technical specifications these two specifications could also be merged into one based on opinion of the RAN delegates.

11 Work item rapporteurs

Martin Nilsson, Allgon AB
Thomas Kummetz, Mikom GmbH

12 Work item leadership

3GPP TSG RAN WG4 (Radio)

13 Supporting companies

- Allgon AB
- BMWi
- Mikom GmbH
- Telenor AS

14 Classification of the WI (if known)

The work item is a building block.

Parent Features:

Radio Interface Improvements and Position Method Enhancement

10. QoS optimization for AAL type 2 connections over Iub and Iur interfaces

Distributed as: RP-000188

Work Item Description

Title

QoS optimization for AAL type 2 connections over Iub and Iur interfaces

1 3GPP Work Area

X	Radio Access
	Core Network
	Services

2 Linked work items

(list of linked Wis)

3 Justification

In Release 99, traffic like compressed voice (AAL type 2 connection) and traffic like data (AAL type 2 connection) are accommodated in common underlying VC for AAL type 2 connections as real time traffics over Iub and Iur interfaces to ease management of CFN (Connection Frame Number) allocation to Down link data frame or scheduling at SRNC (Serving RNC). In addition to that Q.2630.1 has no capability to prioritize real time traffic like compressed voice or non-real time traffic like data.

This requires much broader underlying VC for AAL type 2 connections to achieve delay budget for real time traffic like compressed voice especially in case of real time traffic data frame (smaller) right after non-real time traffic data frame (much bigger). Typical simulation on the case was given in TSG R3#8(99)e19 by Alcatel in Release 99 time frame. Broader underlying VC for AAL type 2 connections over Iub interface impacts very much on initial and running costs of the Iub interface which usually consist of leased line.

It is expected to introduce prioritization capability of Q.2630.2 to optimize the bandwidth of underlying VC for AAL type 2 connections over Iub and Iur interfaces with saving CFN allocation to Down link data frame or scheduling at SRNC in Release 00 time frame. Down link data frame of non-real time traffic which can be smoothed may be assigned future CFN according to expected delay to be arrived on time at destination Node B(s).

4 Objective

Replacement of the referred ITU-T Recommendation Q.2630.1 AAL Type 2 Signalling Protocol (Capability Set 1) to Q.2630.2 AAL Type 2 Signalling Protocol (Capability Set 2) in the following Technical Specifications:

TS 25.414 UTRAN Iu interface data transport & transport signalling,
 TS 25.424 UTRAN Iur interface data transport & transport signalling for CCH data streams,
 TS 25.426 UTRAN Iur and Iub interface data transport & transport signalling for DCH data streams,
 TS 25.434 UTRAN Iub interface data transport & transport signalling for CCH data streams.

Q.2630.2 has a capability to realize prioritization for AAL type 2 connections and was determined (means technically frozen) at 9th March 2000 ITU-T WP1/11 meeting and is planned to be decided (means finally approved) in November-December 2000. The objective is to optimize the bandwidth of underlying VC (virtual connection) for AAL type 2 connections over Iub and Iur interfaces with supporting delay budget for real time traffics, e.g. compressed voice.

The following time schedule is considered for TSG RAN:

1.1.1 Task	Planned start	Planned finish
Work task creation	03/2000	
Work task approval	03/2000	
Drafting and discussion	04/2000	09/2000
Corrections/Fine tuning	09/2000	12/2000
Submission to TSG RAN for approval	09/2000	12/2000

5 Service Aspects

None

6 MMI-Aspects

None

7 Charging Aspects

None

8 Security Aspects

None

9 Impacts

Affects	USIM	ME	AN	CN	Others
:					

Yes			X		
No	X	X		X	X
Don't know					

10 Expected Output and Time scale (to be updated at each plenary)

New specifications						
Spec No.	Title	Prime resp. WG	2ndary resp. WG(s)	Presented for information at plenary#	Approved at plenary#	Comments
Affected existing specifications						
Spec No.	CR	Subject	Approved at plenary#		Comments	
25.414		UTRAN Iu interface data transport & transport signalling	RAN #10			
25.424		UTRAN Iur interface data transport & transport signalling for CCH data streams	RAN #10			
25.426		UTRAN Iur and Iub interface data transport & transport signalling for DCH data streams	RAN #10			
25.434		UTRAN Iub interface data transport & transport signalling for CCH data streams	RAN #10			

11 Work item rapporteurs

Takayuki Yoshimura (Japan Telecom)

12 Work item leadership

TSG-RAN WG3

13 Supporting Companies

Japan Telecom, Ericsson, NTT DoCoMo, NEC

14 Classification of the WI (if known)

	Feature (go to 14a)
	Building Block (go to 14b)
X	Work Task (go to 14c)

14a The WI is a Feature: List of building blocks under this feature

(list of Work Items identified as building blocks)

14b The WI is a Building Block: parent Feature

(one Work Item identified as a feature)

14c The WI is a Work Task: parent Building Block

(one Work Item identified as a building block)

11. Terminal power saving features

Distributed as: RP-000189

Work Item Description

Title

Terminal power saving features

1 3GPP Work Area

X	Radio Access
	Core Network
	Services

2 **Linked work items**

None

3 **Justification**

The UE battery saving, UL/DL interference reduction, and capacity increase are important for deploying the UMTS services. The gated DPCCH transmission can be one of the solutions.

4 **Objective**

Improving the terminal power saving features, UL/DL interference reduction, and capacity increase.

5 **Service Aspects**

None

6 **MMI-Aspects**

None

7 **Charging Aspects**

None

8 **Security Aspects**

None

9 **Impacts**

Affects:	USIM	ME	AN	CN	Others
Yes		×	×		
No	×			×	×
Don't know					

10 Expected Output and Time scale (to be updated at each plenary)

New specifications						
Spec No.	Title	Prime rsp. WG	2ndary rsp. WG(s)	Presented for information at plenary#	Approved at plenary#	Comments
						None
Affected existing specifications						
Spec No.	CR	Subject		Approved at plenary#	Comments	
25.214				RAN#9		
25.301				RAN#9		
25.302				RAN#9		
25.331				RAN#9		
25.101				RAN#9		
25.423				RAN#9		
25.433				RAN#9		

11 Work item raporteurs
Michael Park (sipark@telecom.samsung.co.kr)

12 Work item leadership
TSG RAN WG1

13 Supporting Companies
Samsung
LGIC
SK Telecom
ETRI
KT
Dacom

Note: At the last RAN#6 meeting, the above companies supported that the gated DPCCH transmission should be included to the Release 2000 work item.

14 Classification of the WI (if known)
Not known.

12. Handover for real-time services from PS-Domain

Distributed as: RP-000127rev

Work Item Description

Title

Handover for real-time services from PS-Domain

1 3GPP Work Area

X	Radio Access
X	Core Network
	Services

2 Linked work items

(list of linked WIs)

3 Justification

In release 99, Relocation for services from PS domain is only optimised for non-real-time services. In current design, the content of the data buffers from the source RNC are fetched, which is not fully optimal for real-time services, and means that delay may exceed the requirement for real-time services. It is expected that real-time services from the PS domain, such as voice over IP would benefit from fully optimised handover.

4 Objective

This work item should design handover in RAN (mainly Iu) that supports real-time services from PS domain in an optimised way. The solution should be as simple as possible.

5 Service Aspects

The intention with the work item is to assure more optimised support for services such as voice over IP.

6 MMI-Aspects

None

7 Charging Aspects

None

8 Security Aspects

None

9 Impacts

Affects :	USIM	ME	AN	CN	Others
Yes			X	X	
No	X	X			X
Don't know					

10 Expected Output and Time scale (to be updated at each plenary)

New specifications						
Spec No.	Title	Prime rsp. WG	2ndary rsp. WG(s)	Presented for information at plenary#	Approved at plenary#	Comments
		R3		RAN#8 or 9	RAN#10	
Affected existing specifications						
Spec No.	CR	Subject		Approved at plenary#	Comments	
25.413						

11 Work item raporteurs

Atte Länsisalmi (Nokia)

12 Work item leadership

R3

13 Supporting Companies

Nokia, BT, GBT and Motorola

14 Classification of the WI (if known)

	Feature (go to 14a)
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X	Building Block (go to 14b)
	Work Task (go to 14c)

14a The WI is a Feature: List of building blocks under this feature

(list of Work Items identified as building blocks)

14b The WI is a Building Block: parent Feature

Radio Interface Improvement, RAN Improvement and Evolution of bearers on the radio to enable IP based multimedia in UMTS Features

14c The WI is a Work Task: parent Building Block

(one Work Item identified as a building block)

13. RAB Quality of Service Negotiation over Iu

Distributed as: RP-000137rev

Work Item Description

Title

RAB Quality of Service Negotiation over Iu

1 3GPP Work Area

X	Radio Access
X	Core Network
	Services

2 Linked work items

None

3 Justification

In release 99, UTRAN can only accept or reject a radio access bearer request from the core network. For services that could accept looser QoS requirements than those requested by the CN in the RAB establishment request there exist no means for UTRAN to propose alternative (looser) QoS. For such services the RAB establishment will fail, or alternatively the CN could re-attempt the RAB reestablishment with looser QoS requirements which would significantly increase the setup time.

4 Objective

This work item should enhance the Radio Access Bearer setup to something more sophisticated using e.g. QoS profiles to align with the already existing CN solution used in GPRS. However, it should be as simple as possible.

5 Service Aspects

The intention with the work item is to reduce the setup time of services.

6 MMI-Aspects

None

7 Charging Aspects

None

8 Security Aspects

None

9 Impacts

Affects :	USIM	ME	AN	CN	Others
Yes			X	X	
No	X	X			X
Don't know					

10 Expected Output and Time scale (to be updated at each plenary)

New specifications						
Spec No.	Title	Prime rsp. WG	2ndary rsp. WG(s)	Presented for information at plenary#	Approved at plenary#	Comments
Affected existing specifications						
Spec No.	CR	Subject		Approved at plenary#	Comments	
25.413				RAN #10		
23.060						
24.008						

11 Work item raporteurs

Anders Molander, Ericsson

12 Work item leadership

RAN3

13 Supporting Companies

Ericsson, NEC, Nokia, Siemens.

14 Classification of the WI (if known)

	Feature (go to 14a)
	Building Block (go to 14b)

X	Work Task (go to 14c)
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14a The WI is a Feature: List of building blocks under this feature

14b The WI is a Building Block: parent Feature

14c The WI is a Work Task: parent Building Block

UTRAN Improvement Feature

14. RRM optimizations

Distributed as: RP-000138rev

Work Item Description

Title

RRM optimizations for Iur and Iub

1 3GPP Work Area

X	Radio Access
	Core Network
	Services

2 Linked work items

None

3 Justification

Optimising the existing procedures will increase the efficiency of UTRAN and the quality of service to the end user.

4 Objective

This work item focuses on optimising the existing procedures and functions related to:

1) Congestion handling of DCH

Currently a DRNC accepting a dedicated RL, in principle needs to reserve resources for the maximum bitrate which could possibly be required for the DCH's on this RL. This because the DRNC has a very limited view on the load statistics of the DCH's (source descriptor) and has no possibility to control the DL-rate of the DCH's in congestion situations.

2) Procedure parallelism on Iub/Iur

Currently almost no procedure parallelism is allowed in NBAP/RNSAP (dedicated) procedures. As a result, an RRM procedure used for handling problems in a fast changing radio environment, could have to wait for termination of a procedure e.g. introducing a new service on the RL.

In order to improve the capability of the UTRAN to respond to fast changes in the radio environment, the restrictions on parallelism between procedures coping with radio environment changes (e.g. RL_ADDITION/RL_DELETION) and other

procedures (e.g. RL_RECONFIGURATION) should be decreased.

3) DPC Rate Reduction in soft handover

Currently R1 describes two DPC_modes in 25.214, however mode change signalling is not supported by R3.

By supporting DPC-mode change signalling in the UTRAN, the UTRAN should be better capable of combating power drifting in the DL.

4) Introduction of common measurements over Iur for neighbouring cell load measurements

It is proposed to study the usefulness of / possibilities for introducing common measurements on Iur regarding cell load information in neighbouring cells.

If the study indicates clear benefits of providing such load information to a neighbouring CRNC, e.g. a common measurement procedure as currently supported on Iub could be introduced in RNSAP.

5) Extension of Radio Interface Parameters updating in the user plane

Currently the Iub/Iur DCH FP supports a fast update of the TPC Power Offset in the DL RL via user plane signalling.

It should be studied if more radio interface parameters would benefit from a similar handling. If such parameters are identified, the user plane should be extended for this purpose.

Note that this workitem might need to be extended if RRM related functionality currently listed as open issue in R99, is excluded from R99.

5 Service Aspects

None

6 MMI-Aspects

None

7 Charging Aspects

None

8 Security Aspects

None

9 Impacts

Affects :	USIM	ME	AN	CN	Others
Yes		X	X		
No	X			X	X
Don't know					

10 Expected Output and Time scale (to be updated at each plenary)

New specifications						
Spec No.	Title	Prime rsp. WG	2 nd ary rsp. WG(s)	Presented for information at plenary#	Approved at plenary#	Comments
Affected existing specifications						
Spec No.	CR	Subject		Approved at plenary#	Comments	
25.420		Iur general aspects and principles		RAN #10		
25.430		Iub general aspects and principles		RAN #10		
25.423		RNSAP		RAN #10		
25.433		NBAP		RAN #10		
25.427		Iub/Iur dedicated transport channel user plane		RAN #10		
25.425		Iur common transport channel user plane		RAN #10		
25.435		Iub common transport channel user plane		RAN #10		

11 Work item rapporteurs

Gert-Jan van Lieshout (Ericsson)

12 Work item leadership

WG3

13 Supporting Companies

Ericsson, Motorola, Nokia, Nortel, Siemens

14 Classification of the WI (if known)

	Feature (go to 14a)
X	Building Block (go to 14b)
	Work Task (go to 14c)

14a The WI is a Feature: List of building blocks under this feature

14b The WI is a Building Block: parent Feature

Radio Interface Improvement feature and UTRAN Improvement feature

14c The WI is a Work Task: parent Building Block

15. Radio access bearer support enhancement

Distributed as: RP-000140rev

Work Item Description

Title

Radio Access Bearer support enhancement

1 3GPP Work Area

X	Radio Access
	Core Network
	Services

2 Linked work items

3 Justification

The increasing interest in IP based services demands special optimisation of the means by which a radio access bearer can be provided by UTRAN.

4 Objective

This work item should have the scope of adding necessary functionality to the Uu and Iu interface in order to efficiently support RT traffic, e.g. VoIP. Examples of such functionality are:

- Radio Access Bearer multiplexing in PDCP
- Header compression for VoIP
 - Normally referenced from an IETF RFC
- Support of variable formats over Iu and unequal error protection
- Channel type switching for logical channels
 - Today it is only possible to switch all logical channels of one UE, not individual.
For DSCH it would be much better to be able to switch single logical channels

5 Service Aspects

The intention with the work item is to better and more efficient support IP based services.

6 MMI-Aspects

None

7 Charging Aspects

None

8 Security Aspects

None

9 Impacts

Affects :	USIM	ME	AN	CN	Others
Yes		X	X		
No	X			X	X
Don't know					

10 Expected Output and Time scale (to be updated at each plenary)

New specifications						
Spec No.	Title	Prime rsp. WG	2ndary rsp. WG(s)	Presented for information at plenary#	Approved at plenary#	Comments
Affected existing specifications						
Spec No.	CR	Subject		Approved at plenary#	Comments	
25.331		RRC protocol specification		RAN#10		
25.323		PDCP protocol specification		RAN#10		
25.413		UTRAN Iu interface RANAP signalling		RAN#10		
25.415		UTRAN Iu interface user plane protocols		RAN#10		

11 Work item raporteurs

R2: Ainkaran Krishnarajah (Ericsson)

R3: Martin Israelsson (Ericsson)

12 Work item leadership

TSG-RAN WG2

13 Supporting Companies

(at least 4 companies)

Ericsson, Bosch, Nortel Networks, Telia AB

14 Classification of the WI (if known)

	Feature (go to 14a)
X	Building Block (go to 14b)
	Work Task (go to 14c)

14a The WI is a Feature: List of building blocks under this feature

(list of Work Items identified as building blocks)

14b The WI is a Building Block: parent Feature

(one Work Item identified as a feature)

- RAN Improvement
- Evolution of bearers on the radio to enable IP based multimedia in UMTS

14c The WI is a Work Task: parent Building Block

(one Work Item identified as a building block)

16. Compressed mode enhancements

Distributed as: RP-000180rev

Work Item Description

Title

Improvement of inter-frequency and inter-system measurements

1 3GPP Work Area

X	Radio Access
	Core Network
	Services

2 Linked work items

none

3 Justification

Compressed mode in Release-99 covers limited set of methods of implementing the compressed mode for enabling measurements on other frequencies. There have been methods suggested that potentially improve the system capacity and operational flexibility in addition to the existing methods.

- The following two technologies have been identified as candidates for Release 2000 for inter-frequency and inter-system measurement improvements:
 1. Compressed mode with puncturing and flexible positions
 2. Combination of the existing methods (including method in point 1)

4 Objective

The purpose of this work item is to work on the inter-frequency and inter-system measurement improvements for improved system performance.

The following time schedule is considered for TSG RAN:

Task	Planned Start	Planned Finish
Work Item Creation	3/2000	3/2000
Work Item Approval		3/2000
Drafting and discussion, updates of specifications	4/2000	9/2000

Submission to TSG RAN for approval		9/2000
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5 Service Aspects

None

6 MMI-Aspects

None

7 Charging Aspects

None

8 Security Aspects

None

9 Impacts

Affects :	USIM	ME	AN	CN	Others
Yes		X	X		
No	X			X	
Don't know					

10 Expected Output and Time scale (to be updated at each plenary)

New specifications						
Spec No.	Title	Prime rsp. WG	2ndary rsp. WG(s)	Presented for information at plenary#	Approved at plenary#	Comments
Affected existing specifications						
Spec No.	CR	Subject		Approved at plenary#		Comments
25.212		Multiplexing and channel coding (FDD)		RAN #9		
25.215		Physical layer – Measurements (FDD)		RAN #9		
25.331		RRC Protocol Specification		RAN #9		Parameter update
25.423		UTRAN Iur Interface RNSAP Signalling		RAN #9		Parameter update
25.433		UTRAN Iub Interface NBAP Signalling		RAN #9		Parameter update

11 Work item raporteurs

To be decided by WG1

12 Work item leadership

TSG RAN WG1

13 Supporting Companies

Ericsson, Lucent Technologies, Nokia, Nortel Networks, Omnitel

14 Classification of the WI (if known)

	Feature (go to 14a)
X	Building Block (go to 14b)
	Work Task (go to 14c)

14a The WI is a Feature: List of building blocks under this feature

(list of Work Items identified as building blocks)

14b The WI is a sub-building block part of the radio interfae improvement building block.

(one Work Item identified as a feature)

14c The WI is a Work Task: parent Building Block

(one Work Item identified as a building block)

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17. Support of Multiple CcTrCH in downlink (FDD)

Distributed as: RP-000169rev2

Work Item Description

Title

Improved usage of downlink resource in FDD for CcTrCHs of dedicated type

1 3GPP Work Area

X	Radio Access
	Core Network
	Services

2 Linked work items

None

3 Justification

In the RAN 1 specifications, one CcTrCH of dedicated type may be mapped onto several physical channels (channelisation codes). However these codes must have the same spreading factor in order to have an equal physical channel segmentation. In order to have some flexibility in the resource allocation in downlink, the possibility to have multiple CcTrCHs of dedicated type was introduced in the RAN 1 specifications for R99. This allows to have codes with different spreading factors and distribute transport channels onto separate CcTrCHs taking into account possibly very different QoS requirements, which results in some cases in a smaller amount of allocated resource. RAN 2 and RAN 3 specifications do not support multiple CcTrCHs of dedicated types in R99, limiting hence the flexibility on resource allocation.

4 Objective

Introduction of the possibility to map transport channels belonging to a radio link onto multiple codes with different spreading factors as a way to minimise the overall amount of allocated resource, while fulfilling possibly very different QoS requirements for each of the transport channels,

5 Service Aspects

None

6 MMI-Aspects

None

7 Charging Aspects

None

8 Security Aspects

None

9 Impacts

Affects :	USIM	ME	AN	CN	Others
Yes		X	X		
No	X			X	
Don't know					

10 Expected Output and Time scale (to be updated at each plenary)

New specifications						
Spec No.	Title	Prime rsp. WG	2ndary rsp. WG(s)	Presented for information at plenary	Approved at plenary	Comments
	None					
Affected existing specifications						
Spec No.	CR	Subject		Approved at plenary	Comments	
25.331				RAN #8		
25.423				RAN #9		
25.433				RAN #9		
25.212					?	

11 Work item rapporteurs

RAN2 Claudiu Mihailescu (Nortel Networks)
RAN 3 Nathalie Pereira (Nortel Networks)

12 Work item leadership

RAN2

13 Supporting Companies

Nortel Networks, Nokia, Motorola, Siemens

14 **Classification of the WI (if known)**

	Feature (go to 14a)
x	Building Block (go to 14b)
	Work Task (go to 14c)

14a The WI is a Feature: List of building blocks under this feature

(list of Work Items identified as building blocks)

14b The WI is a Building Block: parent Feature

radio interface improvement feature

14c The WI is a Work Task: parent Building Block

(one Work Item identified as a building block)