Agenda Item: 6.3
Source: Ericsson

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
It is proposed to study the usefulness of / possibilities for introducing common measurements on Iur. For example, at present an SRNC has no information regarding cell load information in neighbouring cells on a DRNC when making soft handover decisions. A study should indicate whether clear benefits exist of providing such load information to a neighbouring CRNC.

If this, or other possible measurements are identified, 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.

6) Separation of resource reservation and radio link activation
This work task aims at introducing the possibility to have dedicated resources reserved in UTRAN without transmitting energy on the corresponding radio link(s). Furthermore, a separate mecha-nism for activating and deactivating radio transmission related to the reserved resources shall be introduced.

The separation will enable the following optimisations in UTRAN:
- delayed activation of a radio link at soft handover for high bit rate users, thus avoiding a potential handover problem;
- quicker channel type switching back to Cell_DCH;
- quicker radio link additions of radio links that recently were part of the active set;

7) Triggering of the Common Transport Channel Resources Initiation procedure by DRNC
Currently the DRNC has no possibility to request an SRNC to move a UE from using one combination of RACH/FACH channels to other RACH/FACH channels. However this functionality is provided by R(99) RRC signalling and is considered beneficial for obtaining a good distribution of the common resource usage in the DRNS.

For R(00) an appropriate solution should be specified to provide this capability to the DRNC.

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	2nd 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 aspeects 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 raporteurs

Gert-Jan van Lieshout (Ericsson)

12   Work item leadership

WG3

13   Supporting Companies

Ericsson, Vodafone, BT, Nokia, Motorola, Nortel, Siemens

14   Classification of the WI (if known)

	Feature (go to 14a)
	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

The BB is considered to consist of 7 separate Work Tasks, corresponding to the headings 1) to 7) in section 4.