Technical Specification Group Radio Access Network *RP-02441*
RAN Plenary, Marco Island, USA, 4-7 June 2002

Source: **Lucent Technologies**

Title: **Work Item Sheet: HSDPA Small Technical Enhancements for Release 6**

Document for: **Approval**

Agenda Item: **8.10**

Introduction:

This document contains the work item sheet to propose HSDPA small technical enhancements for Release 6.

Work Item Description

Title

Work item description for improvement and enhancements of HSDPA feature for Release 6.

1 3GPP Work Area

X	Radio Access
	Core Network
	Services

2 Linked work items

HSDPA

3 Justification

Based on the simulations and analysis done in TSG RAN WG1 and WG2, it has been observed that there are incremental gains achievable with HSDPA feature enhancements with minimal changes in the Release 5 specifications. Thus there is a clear motivation to consider these small technical enhancements as a WI for Release 6.

4 Objective

The objective of this work item is to identify and highlight enhancements for the HSDPA Rel5 feature. The proposed items for enhancements could be grouped as a single WI as they are all HSDPA L1/L2 enhancements and have a common objective that is performance improvement and better utilisation of radio resources resulting in throughput and capacity gains. Some of the following areas of technical enhancements could be studied in the WG under this WI but it does not preclude other possible enhancements:

Fast (MAC-hs) signalling between the Node-B and UE: This enhancement will help to reduce the delays involved due to RRC signalling between UE and RNC. The objective is to devise fast signalling schemes that allow Node-B to signal various information like control channel reconfiguration and power offsets over the air interface to the UE, without having to use RRC signalling.

Use of Multiple Scrambling codes on the Downlink: The OVSF code resource capacity in the downlink can be maximised by the use of code sharing in the same cell by different users on different TX antenna while using different scrambling codes.

HSDPA enhancements to support MBMS: The HS-DSCH provides an interesting alternative to carry the MBMS traffic due to its high spectral efficiency. Some minor modifications to HSDPA control channel structure are needed to enable MBMS service on HSDPA channels.

HS-DPCCH enhancements with HS Pilot insertion: The objective is to enhance the HS-DPCCH performance during soft Handover.

Simultaneous Multiple Data streams to a UE: The main motivation to support multiple simultaneous HARQ transmissions is that there may be times when multiple transmissions to a UE may be pending e.g. two retransmissions on different HARQ processes or a new transmission and a retransmission. The capability to perform multiple simultaneous transmissions allows using as many resources as desired for a given UE within a subframe.

5 Service Aspects

None identified

6 MMI-Aspects

None identified

7 Charging Aspects

None identified

8 Security Aspects

None identified

9 Impacts

Affects:	USIM	ME	AN	CN	Others
Yes		X	X		
No	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
New 3GPP TR	HSDPA Enhancements for R6	RAN WG1		RAN#16	RAN#17	

Affected existing specifications				
Spec No.	CR	Subject	Approved at plenary#	Comments
				To be agreed based on the method(s) agreed

11 Work item raporteurs

Said Tatesh, Lucent Technologies

12 Work item leadership

RAN1

13 Supporting Companies

Lucent Technologies, xxxxx

14 Classification of the WI (if known)

	Feature (go to 14a)
	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

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