TSG GERAN #3
Boston, U.S.A
15-19, January 2001

GP- 010363

Source: Nokia, Ericsson, Motorola, Alcatel
Title: Work Item Description for GERAN Improvements 4
Document for: Work Item to 3GPP TSG GERAN for approval

Work Item Description GERAN Improvements 4

1   3GPP Work Area

X	Radio Access
	Core Network
	Services

2   Linked work items

Independent feature.

3   Justification

GPRS RLC/MAC procedures were designed for non real-time data transfer where the data arrives as one large block. However, the true nature of packet traffic is usually different from this assumption. Typically there is a considerable amount of interactive message exchange between client and the server before the actual data transfer may begin and even during the data transfer. For example in the IMAP email protocol (commonly used to access mail server) the client generates a lot of requests to the server and typically the next request is sent only after receiving response for the previous request. This kind of a behaviour, which is common for many applications, leads to a high number of TBF establishments and releases. The current procedures for establishment and releases are not sufficient. Consequently, the resource utilization is far from optimal, transmission delays unnecessary long and the load on the common control channels increases. This work item is intended to solve the problem of frequent TBF establishments and improve (E)GPRS Rel-4 performance.

4   Objective

This GERAN work item will improve (E)GPRS Rel-4 performance by:

- *Enhancing the RLC/MAC behavior in case of typical IP applications (e.g. e-mail, HTTP, FTP)*
- *Reducing the number of TBF establishments caused by interactive client-server message exchange; This in turn reduces the delay in signalling and data transfer*
- *Reducing the load on common control channels.*

5   Proposed building blocks and work tasks:

Feature	Building Block	Work Task	Date of completion
GERAN Improvements 4	Gb enhancements 2	Stage 2 Stage 3 (changes in 44.060) • Definition of enhanced countdown procedure • Definition of enhanced TBF release procedure • Definition of USF=FREE type polling mechanism on PDCH	Apr 2001 (TSG GERAN #4) Apr 2001 (TSG GERAN #4)

6   Service Aspects
None.

7   MMI-Aspects
None.

8   Charging Aspects
None.

9   Security Aspects
None.

10   Impacts

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

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

Finalisation of this work item is planned for Rel 4.

12   Work item raporteur

Nokia – Janne Parantainen (janne.parantainen@nokia.com)

13   Work item leadership

TSG GERAN WG2

14   Supporting Companies

Nokia, Ericsson, Motorola, Alcatel, Vodafone

15   Classification of the WI (if known)

X	Feature (go to 15a)
	Building Block (go to 15b)

	Work Task (go to 15c)

15a   The WI is a Feature: GERAN Improvements 4.
        This work item description covers the feature, the building block and the work task.

15b   The WI is a Building Block: parent Feature

15c   The WI is a Work Task: parent Building Block