TSG GERAN #1 **TSG GERAN #1 (00)0464**
Seattle, WA, U.S.A
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Source: Ericsson
Title: Work Item Descriptions for GERAN radio interface evolution
Document for: GERAN output document for GERAN radio interface evolution

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Work Item Description

Title

Work Item Descriptions for GERAN radio interface evolution

1 3GPP Work Area

X	Radio Access
	Core Network
	Services

2 Linked work items

Independent feature.

3 Justification

The GERAN work item will provide a platform to provide the four UMTS bearer classes: conversational, streaming, interactive and background. This includes IP end to end voice and multimedia services and provides the possibility to connect the 200kHz radio access to a 3G core network.

4 Objective

The GERAN work item will provide:

- IP Multimedia (real-time end-to-end IP)
- Alignment with UMTS/UTRAN architecture, bearer services and QoS handling
- Spectrum efficiency and performance improvements (multiplexing scenario 1-2 as described in the system concept document)
- Specification flexibility for future enhancements

5 Proposed building blocks and work tasks:

Building Block	Work Task
Overall concept	Stage 2 03.51 • Protocol architecture • Handover • Simultaneous RABs in GERAN. • Mapping of PDP contexts, RABs, RBs and TBFs? • Identity handling in GERAN • MS capabilities • ACK/NACK for OS2 • MT / ME issue • SIP realization • RAB mode combinations
Header adaptation	Header adaptation: Definition of compression and removal modes for PDCP protocol
Radio access bearer design	MuM control signalling for conversational multimedia services. • Identification of requirements
GERAN user / control plane	PDCP protocol design • Adoption of the UTRAN PDCP • Inclusion of header adaptation
	• RLC / MAC Specification
	Physical layer • Use of stealing bits • Fast Access • Logical and physical channel realization (TCH, PDTCH, control channels) • Fast power control • Receiver performance
GERAN RR	• GERAN RR
Iu rg	Inter BSC interface • Identification of requirements • Adoption of relevant parts from Iu r • Complementation with GERAN specifics • New stage 3
Voice over GERAN PS and CS concept	Voice over GERAN PS and CS concept • Architecture for A, Iu cs and Iu ps • Transcoder position/operation • Handover • RTP payload • FPC • LA
Narrowband speech realization	• Channel coding • Signalling • Link adaptation
GERAN security	• Working assumptions for ciphering • Requirements for integrity • Modification of UTRAN specs to be valid also for GERAN • Additional stage 3 work for GERAN

MS conformance test	• MS test specifications
BTS conformance test	• BTS test specifications

6 Service Aspects

Services provided to UTRAN will be provided by GERAN.

6 MMI-Aspects

None

7 Charging Aspects

None

8 Security Aspects

The same or at least similar security will be provided as for UTRAN.

9 Impacts

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

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

The time plan for this work item is documented in 50.099 (GERAN project plan)

11 Work item raporteurs

Ericsson – Frank Mueller

12 Work item leadership

TSG GERAN

13 Supporting Companies

Alcatel, AT&T, Ericsson, Lucent, Nokia, Motorola, Nortel, Siemens

14 Classification of the WI (if known)

X	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

- Overall GERAN concept
- Header adaptation
- Radio access bearer design
- GERAN user / control plane
- GERAN RR
- Iu rg
- Voice over GERAN PS and CS concept
- Narrowband speech realization
- GERAN security

- GERAN BTS Conformance test
- GERAN MS Conformance test

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)