3GPP TSG CN Plenary Meeting #19 **NP-030137**
12th - 14th March 2003. Birmingham, U.K.

Agenda item: **7.12**

Document for: **INFORMATION**

3GPP TSG-CN1 Meeting #28 *Tdoc N1-030225*
Dublin, Ireland, 10 – 14 February 2003

3GPP TSG-GERAN Meeting #13 **Tdoc GP-030322**
San Antonio, Texas, USA, 4-7 Feb 2003

Title:	**LS on terminal and network revision interoperability problems**
Response to:	-
Release:	R99
Work Item:	-

Source:	3GPP TSG GERAN
To:	GSMA Board
Cc:	3GPP TSG CN1

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Attachments: -

1. Overall Description:

TSG GERAN has become aware of certain interoperability problems between R99 UE's and legacy network equipment. These problems have been encountered during the course of testing both GSM/WCDMA and EGPRS-capable UE's against live networks.

The following specific problems in the network equipment implementation have been identified :

2. Revision level in MS Classmark:

Three different values have been defined for UE revision level. These are GSM phase 1, GSM phase 2 including GSM phase 2+, and R99 and later. GSM phase 2 and phase 2+ specification (04.08) defined two code points in revision level field in MS Classmark: One for GSM phase 1, and the other for GSM phase 2. All other code points were defined to be 'reserved for future use' from GSM phase2 until GSM phase 2+ R98.

A third code point, 'Used by mobile stations supporting R99 or later versions of the protocol', was defined first for R99. Some GSM ph. 2, R96, R97 and R98 network implementations either perform a fallback to GSM phase 1 functionality or completely fail to provide service to a UE which indicates a later (R99) revision level, such as the code point allocated for R99 and later UE. The reason is that the network considers it an error when a UE indicates to the network its support of this later version of the protocol.

3. The length of the Quality of Service IE between R97 and R99 implementations

The Quality of Service IE was initially defined in R97 specifications (04.08) as a type 4 TLV coded IE but with fixed length of 5 octets. Subsequently, the length of the IE was extended to maximum 13 octets in R99 and further on to 14 octets in Rel-5 (24.008). Some types of R97 SGSNs do not accept new length for this IE which used to be fixed in R97 reference version. Such SGSN will diagnose an erroneous mandatory IE and consequently can not support GPRS procedures for PDP context activation or PDP context modification for R99 UE.

4. Incorrect TBF assignment message termination

It has been found out that there are R97/R98 BSS in commercial use that incorrectly terminate a TBF resource assignment message, leading to the situation in which a correctly implemented R99 UE will see that the message contains R99 extension assigning an EGPRS TBF to the UE. A R99 UE supporting EGPRS will accept the message and establish an EGPRS TBF, whereas a R99 UE not supporting EGPRS will reject the message due to incompatibility between the MS capability and the assigned TBF mode. In either case, the TBF operation fails and leads to a situation in which GPRS cannot be used at all.

5. Actions:

TSG GERAN asks the GSMA Board to note the detected interoperability problems and consider actions to correct the situation. TSG GERAN appreciates the challenge of installing corrections to every existing piece of affected network equipment, but stresses the fact that such interoperability problems need to be solved in order to facilitate the deployment of commercial R99 UE's.

6. Date of Next TSG-GERAN Meetings:

TSG GERAN #14	7-11 April 2003	Munich, Germany
TSG GERAN #15	23-27 June 2003	To be defined
TSG GERAN #16	25-29 August 2003	To be defined