3GPP TSG SA WG3 Security — S3#22 **S3-020173**
14 - 17 May 2002
Victoria, Canada

3GPP TSG GERAN WG2 Meeting #08bis ***G2-020399***
Kista, Sweden, 11-15 March 2002

Title: Response to "Response Liaison Statement on Trace and Availability of IMSI and IMEI"
Source: GERAN 2
To: CN4
Cc: RAN 3, CN1, SA5, SA3, RAN 2

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Attachments:
GP-020517

GERAN 2 thanks CN4 on Liaison Statement N4-020302, where an action for GERAN 2 was indicated as follows:

- CN4 kindly asks if IMSI/IMEI is already sent over their signalling interfaces (CN4 is receiving contradictory information).

This issue was handled by GERAN #8 meeting (4th – 8th February 2002), where a response "LS to S5 from G2 (reply to S5-020010): Impacts of Subscriber and Equipment Trace" (GP-020517) was sent. GERAN 2 is not aware of contradictional information and asks CN4 to indicate more specifically the contradiction, if any.

In addition to the information of availability of IMSI/IMEI in BSS given in the mentioned LS, GERAN 2 would like to add that the mobile identity (either the IMSI, IMEISV or IMEI) may also be included in the MSC INVOKE TRACE message from MSC to BSS and in the SGSN-INVOKE-TRACE PDU from SGSN to BSS according to the current 48.008 (BSSAP) and 48.018 (BSSGP) specifications.

Next GERAN 2 Meetings:

GERAN #9	15th –19th April 2002
GERAN WG2 #9bis	27th – 31st May 2002
GERAN #10	24th – 28th June 2002

3GPP TSG GERAN **TSGG#08(02)0517**
Meeting no 8 **Agenda Item: 8.2.3**
Rome, Italy
4 – 8 February 2002

Title:	**Reply to Liaison Statement on Availability of IMSI and IMEI**
Source:	**TSG GERAN**
To:	**TSG SA5 (Telecom Management)**
Cc:	**TSG RAN3, TSG CN4**

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1. Overall Description:

TSG GERAN would like to thank TSG SA5 for their LS (GP-020026 / S5-020010 / S5B020038) notifying TSG GERAN that they are working on Subscriber and Equipment Trace in the scope of Rel-5. SA5 has requested TSG GERAN for information on the visibility of IMSI and IMEI in the BSC.

TSG GERAN have reviewed the questions raised in GP-020026 and would like to provide the following answers in the scope of GERAN A/Gb mode:

1. **Is the IMSI/IMEI visible to the BSC?**

   The existing procedures make the IMSI visible to the BSC in some particular cases.

2. **If the IMSI/IMEI is not always known in the BSC, then in which cases (including all events: calls, data and messaging services, supplementary services, mobility management related procedures, handovers, etc.) is it not known?**

   The IMEI is never known in the BSC.
   Regarding availability of the IMSI, it is not known in the BSC except in the following cases:

- When the MS has got an RR connection established (i.e. the MS has been allocated dedicated channels), if the MS, the BSC and the MSC support DTM, as soon as the IMSI is available in the MSC, it is sent to the BSC using the COMMON ID message. The procedure is defined in 3GPP TS 08.08 and is available from R99 onwards.
- When the MS has got a packet connection established (Packet Transfer Mode), two cases have to be considered:
  - The MS has got at least a downlink packet transfer on-going: in this case, the IMSI is provided in every single downlink LLC PDU received from the SGSN. Therefore the PCU network element knows the IMSI of the MS.
  - The MS has only got an uplink packet transfer on-going: in this case, only the TLLI of the MS is known in the PCU. An optional procedure is available on the Gb interface, which allows the PCU network element to request the IMSI associated to the TLLI of an MS by using the Radio Access Capability Update procedure. This procedure is defined in 3GPP TS 08.18 and is available from R97 onwards.

  It should be noted that when the MS has got a packet connection established, it is then possible for the PCU network element to obtain the IMSI of the MS. However, there is no standardised interface between the PCU and the BSC. Depending on the architecture selected in the GPRS Radio Access Network, the IMSI may therefore not be available in the BSC while in Packet Transfer Mode.

3. **If there are cases where the IMSI/IMEI is not known, is it possible for GERAN to provide for Release 5 an addition to their specifications, which would guarantee that the IMSI/IMEI would always be visible in the BSC?**

   TSG GERAN have investigated the request from TSG SA WG5 and they have come to the conclusion that it would be possible to define procedures which allow making the IMSI/IMEI visible to the BSC in the following cases:

- The MS has got an RR connection established: the existing COMMON ID procedure could be extended to non-DTM capable BSC/MSC/MS. Also, a COMMON ID REQUEST message could be defined, that would allow the BSC to request to the MSC the IMSI associated to the on-going RR/SCCP connection. The COMMON ID message could also be extended to include the IMEI associated to the IMSI, but this might have significant impact on the BSC.
- The MS has got a Packet connection on-going and there is a BSC-PCU interface which allows the BSC retrieving the IMSI/IMEI from the PCU. Note that TSG GERAN will not standardise such an interface. The IMEI could be obtained by extending the RA-CAPABILITY-UPDATE-ACK message.

Note that in both cases, this would require that the MSC know the IMEI associated to the MS's IMSI. It is the understanding of TSG GERAN that this may not always be the case although a specific procedure is defined at MM level, which allows the MSC to obtain the IMEI.

4. If the answer to question #3 is positive, then which specification(s) would be affected, in which timeframe could this be done, what would the solution be, and under which WIs in GERAN would the work be done?

The full scope of the desired functionality and the requirements for the Subscriber and Equipment Trace is not clear to TSG GERAN. TSG GERAN would like to receive any additional available information. However, considering the late point in time after the establishment of the connection that the IMSI/IMEI at earliest can be made available in the BSC, TSG GERAN is in doubt about the usefulness of the functionality.

The following specifications would need to be updated in order to offer such functionality: 3GPP TS 48.008 and 3GPP TS 48.018. Once the requirements are confirmed by TSG SA WG5, the work could be done in the release 5 timeframe if limited to the above mentioned changes. The solutions have been briefly presented above. No Work Item exists today within TSG GERAN that would cover this functionality.

Regarding GERAN Iu mode, the same procedures as for the RNC should be re-used.

2. Actions:

To TSG SA5:

TSG GERAN kindly ask TSG SA5 to review their answers and provide feedback as soon as possible regarding the need for such a functionality in the release 5 timeframe.

3. Date of the next TSG GERAN / GERAN WG2 meetings:

GERAN2#8bis	11-15 March 2002	Kista, Sweden.
GERAN#9	15-19 April 2002	Phoenix, U.S.A. (release 5 deadline)