Tdoc S3 LI 00098

DRAFT Report of the 3GPP TSG SA WG3-LI (S3-LI) meeting #4/00 on lawful interception

Irving August 29, 30 and 31 2000

Please direct all comments to
Bernie McKibben at p17982@email.mot.com.by September 22, 2000

Chairman: Bernie McKibben Motorola Core Networks Division
Support/Secretary: to be determined

List of participants: see annex A
List of documents: see annex B
Outputs see annex C

1 Opening and approval of proposed agenda

The meeting was welcomed by Ron Ryan on behalf of the host Nortel Networks. The domestic arrangements were given.

The proposed agenda with working schedule in **Tdoc SMG10 AD085** was proposed by the chairman. The working schedule was accepted and the documents were allocated. The main issues for this meeting were:

1. Conduct joint meeting with T1P1 on packet data intercept status
2. Present results from 3G LI work shop
3. Present completed 3G LI action items
4. Complete initial draft of TS 33.106, release 2000.
5. Review event CR requests from Nokia
6. Review CR proposal from Reg TP

The final report from the latest S3-LI meeting in Saarbruecken during July 2000 is available in **Tdoc SMG10 AD00 76**.

SMG10-WPD specifications:	rapporteur
GSM 01.33: Lawful Interception requirements for GSM version 7.0.0	David Miles (Cellnet)
GSM 02.33: Lawful Interception - stage 1 version 7.2.0	Bernie McKibben (Motorola)
GSM 03.33: Lawful Interception - stage 2 version 7.1.0	Bernhard Spalt (Siemens)

3G LI specifications:

2 Brief status on CALEA and IP intercept in North America

Ron Ryan, the chair of T1P1s ad-hoc working group on lawful intercept, and Terri Brooks, chair or TR-45 ad-hoc on lawful intercept provided a brief remarks on intercept within North America. The following highlights were noted.

- J-STD-O25 being forwarded for ANSI pub.
- J-STD-025A publication is being suspended due to recent decision of 4 punch list features called out the standard.
- New project number for timing and content of conference calls has been requested. This isolates the two approved features from 025A.
- Notification to industry of recent decision and J-STD-25A status is planned.
- Carriers, but not TIA, have asked for an extension of J-std-25A

3 3GPP Administration

The new 3GPP_TSG_SA_WG3_LI mailing list was announced. The SMG10 WPD mailing list will soon be closed. 3G S3 LI documents will be posted on the 3G web site. Maurice Pope will provide MCC support to the group when meetings do not conflict with SA WG3.

The latest 3G work plan calls for stage two multi-media to be published by December 2000 and LI architecture to be completed by March 2001. (See SA_R00_draft2 and AHR00-031) The group is working towards this objective, but views the release of 33.107 by March 2001 to be very aggressive.

4 3G LI workshop results

Rolf Schnitzler reviewed the results from the 3G LI workshop held in August. See Tdocs 080 and 089. The following points and questions were noted:

- How to intercept class 4 transport bearer with re-transmit ? This is guaranteed for the subscriber. Do we intercept retransmits to the agency? Provide guaranteed delivery to the agency?
- Nokia proposes that the higher quality of service to agency to handle encryption. Note that it is hard to do synchronisation in real time.
- Clear separation of responsibility between network, transit and LEMF was noted. Network should not be responsible for performance of transit.
- ETSI view from is that LEA is responsible for delivery capacity.
- What kind of location information is required? Location only in core or in the ran as well? Network session protocols and processing at the RAN interface should not be altered for the sake of location information. Is there a protocol on the Iu interface to get location info out of the RAN? Example scenarios should be determined in detail, and further analysis is required.
- Handover between 2g and 3g networks. Change of correlation numbers may occur in certain scenarios. We need to be explicit when correlation is not provided.
- Visited network provides intercept of visited service only. Home network intercept is determined upon national law. Can protocols support location dependent intercept?

- Should CSCF and SGSN intercept be correlated?
- Nortel requested to write a clarification of the requirement for CSCF and VHE, intercept from a US perspective.
- Can bearer versus control be separated for intercept reporting?
- No vocoding capability is assumed at the agency. Bearer to be presented without compression.
- End to end encryption is expected to have no impact.
- Network based encryption needs to be stripped out before delivery**.**
- Issue list will be update.

Conclusion:

The workshop covered many issues that will require further contributions, however, a number of principles were confirmed that can be use for the TS 33.106 update.

5 3GPP LI Action Items: Roaming, Call Scenarios and SIP Events Tdocs 082, 084, 087

Siemens and Motorola completed action item contributions assigned from the last meeting. The following points and conclusions were made:

Roaming:

- No new requirements seen.
- Correlation during hand over is an issue, as noted in the 3G workshop report.

Call Scenarios:

- Visited network intercept is a hard requirement.
- Potential intercept points were identified.
- Call for contribution on applying intercept points to scenarios as discussed during the meeting. Ericsson volunteered to provide contribution.
- Call for contribution to handle roaming scenarios mapped to reference architecture.

SIP Events

- T1P1 input to JEM noted: Should SIP be copied to the agency? Or do we extract SDP parameters? SIP events must be mapped to call events. (Mapping SIP signals into events was deemed to be an interim solution, sending specific SIP signalling in whole was the long term solution. Can there be a one to one mapping for SIP to event records?)
- Should SIP events be intercepted? Conclusion is yes.
    - Where? At the S CSCF is certain. Confirm interception at P CSCF.
    - Under what conditions? To be determined.

- What events are reported? Call for a contribution. Motorola to provide.
- What information should be reported in each event? Call for contribution. Motorola to provide.

Conclusion:

1) Limitations of correlation under roaming scenarios needs to be clarified in the standard. 2) Potential interception points were identified. 3) SIP events will need to intercepted.

5 Proposed CR from RegTP: Tdoc 081

Siemens presented proposed CR on HI3 parameters on behalf of RegTP. The following questions were raised:

- D2 sees no need for CR since the 201 671 annex already calls out how GSM is supported.
- Ericsson points out that this information could be in HI2. Is it necessary to have it in HI3? It appears to be redundant information. Nokia concurred.
- Motorola believes it makes more sense to have just correlation in HI3.

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Conclusion:

There was no agreement on the proposed CR, as many questions remained unanswered. It was suggested that the topic be brought up and reviewed again when the author of the CR could be present during the discussion.

6 Preparations for meeting with T1P1

The group reviewed a presentation to be made by the 3G S3 LI chair to T1P1 on Thursday. Minor updates were made. See tdoc 088

7 Nokia proposed CRs. Tdocs 068, 069, 070, 071, 072, 074, 075

Nokia CRs

- Tdoc 68 and 70 SGSN change event from the GGSN
  - Siemens comment: Can't this same thing be done with an HLR update as is currently done for CS?
  - Nokia comment: All transit data is subject to intercept in the US, increasing the need for the CR.
  - No agreement on CR. (4 organisations do not support, two supported)
- Tdoc 69 and 71 Addition of PDP Context Timer event for SGSN and GGSN
  - Proposal to use new events instead of time stamps in the bearer
  - It was noted that there is currently no requirement for time stamps in the bearer.
  - No agreement (4 organisations do not support, one supported)
- Tdocs 72, 74 and 75 Sequence numbers
  - Ericsson: no known government has placed this kind of requirement on us.
  - Viag: a method is needed to detect missing information on HI3

- No agreement (3 organisations do not support, two support, two neutral, one absent)

Conclusion:

There was no agreement on any of the proposed CRs.

8 Interception Points within basic call scenarios

Based upon the request for a contribution illustrating interception points within the 3G reference architecture under various call scenarios, Ericsson produced and presented Tdoc 090. Interception points were illustrated based upon the prior discussion on Tdoc 084. The following points were made during the meeting:

- Interception point added to CSCF for PS Multi-media sessions. Reporting of SIP events to be included.
- Interception points for PS service followed the SGSN based interception precedent seen in R99.
- Interception points in the MSC Server and MGWs identified for CS service.
- US might require GGSN interception for US requirements for networks that comprise strictly GGSNs
- US would require serving system message from the HSS.
- Nokia disagreed with the presentation, as Nokia sees GGSN interception to be the superior choice. The majority of other parties are in agreement with content of the presentation, as modified with an interception point added to the CSCF.
- Interception of parties on hold in the PS domain not seen to be a hard requirement.
- The scenarios need to be expanded to take into account cases for roaming and home CSCF selection.

Conclusion:

With the exception of Nokia, all parties agreed upon the hard requirement of SGSN based interception for release 2000. An intercept point within the CSCF was added to address new release 2000 multi-media services. Interception points in the MSC Server and MGWs were identified for CS service. The intent is to use the scenarios presented as input material for an update of 33.107. Nokia, however, rejects this premise as Nokia proposed GGSN based intercept for certain scenarios. A call for a contribution for roaming cases was made.

9. TS 33.106 Update for release 2000.

The following changes were identified for the initial draft of TS 33.106 for release 2000.:

- Second paragraph in section 5.1.2 modified as follows: *For interception, there needs to be a means of identifying the target, correspondent and initiator of the communication. Target Identities used for interception shall be MSISDN, IMEI and IMSI. (Editor's note: target identities to be confirmed for multi-media)When network encryption, encoding or compression is introduced, it shall be a national option as to whether the network provides the CC to the agency decrypted, decoded, decompressed or encrypted information provided with a key available to the agency. User end to end initiated , encryption , encoding or compression shall not be removed by the network*.
- Paragraph 5.1.4 added as follows: *The visited network shall intercept only those services that the visited network provides to the target subscriber. The introduction of the Virtual Home Environment ,VHE, means that significant portions of subscriber services can be executed in the home or visited network, regardless of where the target is physically located. Based upon national law, services executed in the home network may be intercepted only in the home network. Furthermore, the visited*

network shall not be responsible to intercept services executed by the home network. Editors note: Intercept within home network for reporting to the lea by the home network for roamed out subscribers is a topic for further study. Ericsson requested that this text be clarified to better separate issues between home and visited networks. Group agreed that text will be clarified.

- Paragraph 5.2.1.1 is modified to eliminate CC only option as follows: *As a result of the activation (of a warrant) it shall be possible to request for the specified target, either IRI, or both the IRI and the designate the LEA destination addresses for the delivery of the CC and IRI if required. These shall be selectable on a 3GMS basis according to national options.*

- Paragraph 5.2.2.3 text added as follows: *[editors note: clarification needed about correlation during handovers as it is not always possible during handover.]*

- Paragraph 5.6 The following text is added: *The QoS towards the delivery function provided by the network must be at least that the network provides to the target.*

- Based upon Nokia suggestion, the group recognised the need for 33.107 to be updated to allow for a single link to the LEAs.

- Nokia proposed to store CC bearer upon failure as an option, however, group could not agree to the proposal.

Conclusion:

The initial draft of the TS 33.106 as modified based upon the groups discussion will be submitted to S3 for information. It is believed that the current draft is too preliminary to request comment or approval from S3.

10. Report on Camerilla

Stephan Bjornson presented an overview of Camerilla progress. The following highlights were noted:

- Camerilla is a sub group of ETSI TC Sec LI, focused on IP

- Intercept point at the ISP is introduced. (Nokia noted that ISP is excluded in the US.)

- FTP, GTP and ROSE on the list of 4 delivery mechanisms discussed. RTP was not considered.

- Nokia questioned the need for interception at the service level.

- Camerilla is input material for an ETSI guide, to be published this year.

11. GPRS HI2 syntax report to TC Sec LI

- Motorola and Nokia still do not agree with the results from the Vienna work shop as modified at the last meeting.

- Nokia and Motorola plan to propose a method for an alternate structure for the GSM/GPRS HI2 portion of the hand over syntax at the next TC Sec LI.

- 3G LI will report to TC Sec LI that no recommendation on GSM and GPRS syntax for HI2 is yet available.

11. Joint meeting with T1P1 ad-hoc on intercept

A joint meeting with T1P1 was conducted to review the latest status of packet data interception. The following highlights were noted:

- Terms of reference for the meeting: consider consistent GPRS requirements for T1P1 and 3GPP 106 and 107. (What is the best method to provide input into 3G specs?)

- Packet data bearer must be delivered in the US by Sept 2001. Trap and trace orders for packet data is up for discussion and post 2001.

- 3G Release 2000 standards cannot wait for US issues on packet data to be resolved to proceed per work plan. Interim standards can be considered for release 2000. Known US requirements should provide input to T1P1.

- How to include US standards into 3G specs? Use the T1P1 national option procedure or move it into the J std? As a regional annex, just like other basic GPRS spec annexes that are US specific?

- Consensus to proceed with co located meetings to provide input into the 3G process.

Conclusion:

There was common interest expressed by both T1P1 and 3G S3 LI members that T1P1 input into the 3GPP LI standards be considered for the release 2000 update. The hope is that T1P1 input might allow release 2000 specifications to be more easily be expanded upon for US specific standards, should US extensions be required. Given that the full set of US packet data requirements will not be available for some time, the groups agreed that the best forum for T1P1/3GPP LI co-operation is a number of co-located 3G S3 LI and T1P1 LI ad-hoc meetings. In this way, input could be accommodated in a manner that would not slow down progress of the release 2000 3G LI documents.

12. Proposed Interception within call scenarios from Nokia Tdoc 096

Nokia presented a series of call scenarios that included interception points within the GGSN. Essentially, optional GGSN interception points were added to the SGSN interception points seen in the Ericsson call scenario proposal discussed earlier. Many in the group regarded GGSN intercept to be a national option. As a national option, GGSN is already permitted by the TS 33.107, but full definition of the mechanism is not mandated. There was not agreement on the need for GGSN based interception to be defined in the standard. Nortel raised the possibility that US requirements might call for GGSN intercept.

Conclusion:

GGSN interception was viewed to be a national option. There was no agreement to fully define GGSN interception in the standard.

13. Call for Contributions

The following contributions were solicited in order to prepare for progress on TS 33.107 at the next meeting:

- Roaming scenarios mapped to reference arch: Siemens

- What events are reported by the CSCF?: Motorola

- What information to include in the CSCF reports? : Motorola

- QoS management towards the agency. : Ericsson to look for requirements

- Interception of the VHE? Should we standardize this? If so, how should it be done?: Input from multiple groups required.

    - Note: It was viewed that the GGSN is a transit network node. As such, it is not hard requirement to intercept in the GGSN.

- Note: It was viewed that there is no firm requirement in the US to intercept parties on hold.

13. Open items for WPD/3G LI Joint Working Party

02.33 open items

- Optimal routing (material completed, to be submitted to SMG for approval)
- Shared Interworking Functions
- CAMEL (material completed, to be submitted to SMG for approval)
- Location Services

9.2 03.33 open items

- CAMEL
- Location Services

9.4 3G LI Requirements

- Update in light of release 2000

9.5 3G LI Architecture

- Update in light of release 2000

9.6 Output documents to TSA WG3 e-mail list

The following documents need to be distributed to SMG10.

- Irving report

- TS 33.106 release 2000 initial draft

9.7 Output documents to TC Sec LI

none.

10 Any other business

10.1 SA WG3 LI e-mail list and SMG10_WPD e-mail list

The WPD mailing list will soon close

If you would like to subscribe to this list, simply send an e-mail to:

listserv@list.etsi.fr

with the following message in the main message text (not the subject line):

SUBscribe 3GPP_TSG_SA_WG3_LI

11 Review of draft report

The draft report was available September 5, 2000. The draft report was e-mailed to the participants and was/will also be put on the 3GPP server in the S3-LI area. The report could be commented and modified until September 22, 2000. Send all comments to Bernie McKibben at **p17982@email.mot.com**. The meeting report will be submitted to TSA WG3 LI plenary.

12 Future meeting dates and closing of the meeting

The following dates for **SA WG3 LI meetings** are scheduled:

November 27, 28, 29, 30	Motorola in Israel (to be confirmed)
January 23, 24, 25	T-Mobil & Mannessman in Koln
February 20, 21, 22	Host to be indentified

The following tentative agenda for the next SA WG3 LI meeting was agreed:

- Close issues in 33.106 and produce revision ready for S3 review
- review action items
- Produce initial report of 33.107 hard req's through to the annex.

The chairman thanked the delegates for their active participation. Nortel was thanked for hosting the meeting.

Annex A

List of participants of the 3GPP TSG SA WG3-LI meeting #4/00 on lawful interception

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Annex B
List of documents of the S3-LI meeting #4/00on lawful interception

TDoc	No	status
HI2 and HI3 Delivery syntax: Motorola	Tdoc SMG10 AD00-55	Distributed for Saarbruecken
ETSI TC Sec LI HI3 GPRS TD007 R2	Tdoc SMG10 AD00-56	Distributed for Saarbruecken
ETSI TC Sec LI work item: Description of GPRS	Tdoc SMG10 AD00-57	Distributed for Saarbruecken
ETSI TC Sec LI work item: Arch & Mech for datagram LI	Tdoc SMG10 AD00-58	Distributed for Saarbruecken
Terms of Reference for STF on Aspects of LI	Tdoc SMG10 AD00-59	Distributed for Saarbruecken
Liaison to WG SA3 LI from TC Sec (21wglitd035)	Tdoc SMG10 AD00-60	Distributed for Saarbruecken
Vienna meeting report on GPRS HI2 & HI3 syntax	Tdoc SMG10 AD00-61	Distributed for Saarbruecken
GPRS HI2 & HI3 syntax proposal from Nokia	Tdoc SMG10 AD00-62	Distributed for Saarbruecken
CALEA presentation from T1P1	Tdoc SMG10 AD00-63	Distributed for Saarbruecken
Reg TP comments on Motorola syntax proposal	Tdoc SMG10 AD00-64	Distributed for Saarbruecken
Work item on HI3 for GPRS	Tdoc SMG10 AD00-65	Distributed for Saarbruecken
Functional spec for LI of the Internet from Netherlands	Tdoc SMG10 AD00-66	Distributed for Saarbruecken
Transport of Intercepted IP traffic V0.1.0	Tdoc SMG10 AD00-67	Distributed for Saarbruecken
SGSN change event for 03.33 from Nokia	Tdoc SMG10 AD00-68	Distributed for Saarbruecken
PDP context timer for 03.33 from Nokia	Tdoc SMG10 AD00-69	Distributed for Saarbruecken
SGSN change event for 33.107 from Nokia	Tdoc SMG10 AD00-70	Distributed for Saarbruecken
PDP context timer for 33.107 from Nokia	Tdoc SMG10 AD00-71	Distributed for Saarbruecken
Sequence numbers from Nokia	Tdoc SMG10 AD00-72r1	Distributed for Saarbruecken
Liaison to TC Sec on STF and GPRS	Tdoc SMG10 AD00-73	Distributed for Saarbruecken
Sequence numbers for 03.33 from Nokia	Tdoc SMG10 AD00-74	Distributed for Saarbruecken
Sequence numbers for 33.107 from Nokia	Tdoc SMG10 AD00-75	Distributed for Saarbruecken
Draft Saarbruecken report	Tdoc S3 LI 076	Distributed post Saarbruecken
Progress report on 3GPP release 2000 work item	Tdoc S3 LI 077	Distributed post Saarbruecken
List of issues for 3GPP LI	Tdoc S3 LI 078	Distributed post Saarbruecken
Draft Irving Tdoc list	Tdoc S3 LI 079	Distributed for Irving
3G Work shop issue list	Tdoc S3 LI 080	Distributed for Irving
Proposed CR for X3 parameters from Reg TP	Tdoc S3 LI 081	Distributed for Irving
3G Roaming Scenarios from Siemens	Tdoc S3 LI 082	Distributed for Irving
IETF SIP Proxy to Proxy for DCS, intercept	Tdoc S3 LI 083	Distributed for Irving
3G Call scenarios from Motorola	Tdoc S3 LI 084	Distributed for Irving
Draft Irving agenda`	Tdoc S3 LI 085	Distributed for Irving
Final report from Saarbruecken	Tdoc S3 LI 086	Distributed for Irving
SIP Events from Motorola	Tdoc S3 LI 087	Distributed for Irving
Status of Intercept Standards for 3GPP	Tdoc S3 LI 088	Distributed for Irving
3G presentation from Mannessman	Tdoc S3 LI 089	Distributed for Irving
Intercept points on the call scenarios from Ericsson	Tdoc S3 LI 090	Distributed for Irving
Final Irving Tdoc list	Tdoc S3 LI 091	Distributed for Irving
CR from Ericsson for CC only	Tdoc S3 LI 092	Distributed for Irving
33106 release 2000 draft	Tdoc S3 LI 093	Distributed post Irving
Status of Intercept standards for 3GPP revised	Tdoc S3 LI 094	Distributed for Irving
Camerilla report from Ericsson	Tdoc S3 LI 095	Distributed for Irving
Example call sessions for 3GPP from Nokia	Tdoc S3 LI 096	Distributed for Irving
Update issue list from the meeting	Tdoc S3 LI 097	Distributed post Irving
Draft report for Irving	Tdoc S3 LI 098	Distributed post Irving

Annex C

Agreed outputs of the SA WG3 LI meeting #4/00 August 2000 on lawful interception

1. Initial draft of TS 33.106, release 2000. Tdoc 093
2. Initial draft of Irving meeting report. Tdoc 098