3GPP TSG CN Plenary Meeting #13 **NP-010450**
Beijing, China, 19th –21st September 2001

Source: TSG CN WG4

Title: LSs after CN#12

Agenda item: 6.4.1

Document for: Information

Introduction:

This document contains LSs that have been agreed by TSG CN WG4 after CN#12, and are forwarded to TSG CN Plenary meeting #12 for information.

TDOC N4-00xxxx	Subject	To	Cc	Attachment	Sent
N4-010917	Liaison Statement on 3GPP User Profiles	SA1, SA2, SA3, T2 T3			17th July 2001
N4-010918	Reply to SA2's Request for CN4 to Comment on GERAN's LS on Legacy Transceivers support	SA2	GERAN		17th July 2001
N4-010919	Liaison Statement response on "Inter-BSC/RAN Network Assisted Cell Change"	G2 SA2	GERAN, RAN2, RAN3, CN1		17th July 2001
N4-010935	LS on Subscription Updating Procedure	SA2			17th July 2001
N4-010966	Reply LS on consistent description regarding the use of Charging Characteristics	SA5, SA2	SA	N4-010964 N4-010965	17th July 2001
N4-010968	LS response to SA3 on "Using a generic authentication scheme for SIP"	SA3	SA2, CN1		03rd Sep. 2001
N4-010969	LS to SA3 on Signalling for user authentication	SA3	SA2, CN1		17th July 2001
N4-010982	Liaison Statement on adding a RANAP cause to the Relocation Cancel Request	SA2			17th July 2001
N4-010983	On introduction of the inter-SGSN Suspend-Resume functionality in Rel-4	SA2		N4-010974	17th July 2001
N4-010984	Presence of IMSI TLLI or P-TMSI in SGSN context request message	SA2	CN1	N4-010959	17th July 2001

3GPP TSG CN WG4 Meeting #08 **Tdoc N4-010917**
Dresden, GERMANY, 9th - 13th July 2001

Title: Liaison Statement on 3GPP User Profiles

Source: TSG-CN WG4

To: TSG-SA WG1, TSG-SA WG2, TSG-SA WG3, TSG-T WG2, TSG-T WG3

cc:

Contact Person:
Name: Ian Park, Vodafone
E-mail Address: ian.park@vodafone.co.uk
Tel. Number: +44 1635 673 527

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1. Overall Description:

TSG-CN WG4 thank TSG SA WG2 for their LS S2-011576 dated 14 - 18 May 2001. We have noted SA2's recommendation for a joint ad hoc meeting of experts from SA1, SA2, SA3, T2, T3 and CN4. The CN4 chairman has sent an email to his counterparts in SA1, SA2, SA3, T2 and T3, with copies to the MCC experts, to propose a meeting either in the week beginning 30 July or in the week beginning 6 August; this avoids the known meetings of all the working groups concerned. A venue close to a major European hub airport seems to be appropriate, to ease travelling.

We suggest that the scheduling of the meeting is progressed by email correspondence between the WG chairmen and MCC experts.

3GPP TSG CN WG4 Meeting #09 **Tdoc N4-010918**
Dresden, GERMANY, 9th - 13th July 2001

From: TSG CN WG4

To: TSG SA WG2

Cc: TSG GERAN

Title: Reply to SA2's Request for CN4 to Comment on GERAN's LS on Legacy Transceivers support

Contact: Nigel Berry – Lucent Technologies
nhberry@lucent.com

TSG CN WG4 thank SA2 for their LS forwarding GERAN's LS on Legacy Transceivers Support, reference S2-010703, from their SA2#17 Gothenburg, Sweden, February 26th – March 2nd, 2001.

CN4 would have welcomed the opportunity to comment and perhaps have provided a representative. However, CN4 have just received this LS in their Dresden meeting starting 9th July 2001. Clearly the joint meeting of GERAN, RAN3 and SA2 of 10-11th April, 2001 has already taken place and so it is too late for CN4 to comment as presumably events have moved on. We note you would have welcomed an LS from CN4 in time, however we need to receive these requests in a timely fashion in order to operate effectively.


N4-010905.zip

3GPP TSG CN WG4 Meeting #09 **Tdoc N4-010919**
Dresden, GERMANY, 9th - 13th July 2001

Title:	Liaison Statement response on "Inter-BSC/RAN Network Assisted Cell Change"
Source:	TSG CN WG4
To:	TSG GERAN WG2, TSG SA WG2
Cc:	TSG GERAN, TSG RAN WG2, TSG RAN WG3, TSG CN WG1
Date:	12 July 2001

Contact person:	Einar Oltedal E-mail: einar.oltedal@eto.ericsson.se Tel: +47 37293762

1. Overall Description:

TSG CN WG4 would like to thank TSG GERAN WG2 for the LS TSGG2#5bis(01)0196 (N4-010912) and inform the recipient WGs of this LS of the following:

The answer to your question:

"The amount of changes in order to standardise the relaying/routeing functionality of System Information via the Core Network (SGSN)."

We believe the GTP signalling shall carry System Information enveloped and that new GTP messages are required, but TSG CN WG4 would like to wait for the changes in stage 2 before starting any protocol work.

TSG CN WG4 is willing to take on the necessary work on 3GPP TS 29.060. If the suggested work time plan for GERAN2 (In October 22-26, 2001 GERAN #6 bis will present updated version of the TR and the initial CRs to the stage 2 description 23.060 should be already approved by TSG SA WG2) is followed, then TSG CN WG4 can have the stage 3 work presented at the CN4 #11 meeting (26-30 November 2001 in Cancún, Mexico).

2. Actions:

To SA2 group.

ACTION: TSG CN WG4 asks **TSG SA WG2** group to communicate TSG CN WG4 of the changes performed on the 3GPP TS 23.060.

3. Date of Next CN4 Meetings:

CN4 #10	15-19 October 2001	Brighton, UK
CN4 #11	26-30 November 2001	Cancún, Mexico

4. Attachments:

None.

3GPP TSG CN WG4 Meeting #09
Dresden, GERMANY, 9th - 13th July 2001

Tdoc N4-010935

Title: **LS on Subscription Updating Procedure**

Source: **3GPP TSG CN4**

To: **3GPP TSG SA2**

Contact Person:

Name: Jaakko Rajaniemi, Nokia
E-mail Address: jaakko.rajaniemi@nokia.com

CN4 thanks SA2 on their LS on the Subscription Updating Procedure [1]. SA2 asked CN4 to decide from the two possible solutions: Push or Pull model, the best mechanism for the subscription updating procedure.

At CN4#09 meeting in Dresden, a consensus was reached after some discussion in favour of the Push model which was supported by the majority of the companies. Therefore, CN4 agreed that the Push model is adopted as the working assumption for the subscription updating procedure.

Reference:

[1] S2-011682 (N4-010913), "LS on Subscription Updating Procedure", Source: SA2

3GPP TSG-CN-WG4 Meeting #09 **N4-010959**
Dresden, GERMANY, 9th - 13th July 2001

CR-Form-v4

CHANGE REQUEST

⌘ **29.060** **CR** **237** ⌘ rev **1** ⌘ Current version: **3.8.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM ☐ ME/UE ☐ Radio Access Network ☐ Core Network ☒

Title:	⌘	Rewording usage of P-TIMSI and TLLI in ”SGSN context request”
Source:	⌘	Siemens
Work item code:	⌘	GTP enhancements
Date:	⌘	12.07.01
Category:	⌘	**F** Agreed by consensus
Release:	⌘	R99

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(Addition of feature),*
C *(Functional modification of feature)*
D *(Editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
2 *(GSM Phase 2)*
R96 *(Release 1996)*
R97 *(Release 1997)*
R98 *(Release 1998)*
R99 *(Release 1999)*
REL-4 *(Release 4)*
REL-5 *(Release 5)*

Reason for change:	⌘	Allignment with stage 2 During UMTS –GSM intersystem change in 23.060 in chapter 6.13.2.1 at subclause 3 it is mentioned that if new SGSN is 2G TLLI (Gb-mode) is sent in message „SGSN context request“ and in chapter 6.13.2.2 subclause 3 if new SGSN is 3G and P-TMSI (Iu-mode) is sent. In chapter 6.9.2.1 subclause 2 only IMSI is mentioned to sent. This means either P-TMSI, TLLI or IMSI are allowed to sent. Clarify the condition of presence of IMSI, TLLI and P-TMSI in “SGSN context request“.
Summary of change:	⌘	In chapter 7.5.3 the changes is that only one of the TLLI or P-TMSI or IMSI are allowed to sent in
Consequences if not approved:	⌘	Possibility of misinterpretation

Clauses affected:	⌘	7.5.3
Other specs affected:	⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments:	⌘	

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.htm.
Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://www.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

****

Modified section

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7.5.3 SGSN Context Request

The new SGSN shall send an SGSN Context Request to the old SGSN to get the MM and PDP Contexts for the MS. The MS is identified by its old RAI and old TLLI/old P-TMSI values. The TLLI/P-TMSI and RAI is a TLLI/P-TMSI and an RAI in the old SGSN. ~~One~~ Exactly one of the TLLI~~, or~~ P-TMSI, or IMSI information fields ~~must~~ shall be present ~~unless IMSI is present~~.

The old SGSN responds with an SGSN Context Response.

The new SGSN shall include a SGSN Address for control plane. The old SGSN shall store this SGSN Address and use it when sending control plane messages for the MS to the new SGSN in the SGSN context transfer procedure.

The Tunnel Endpoint Identifier Control Plane field specifies a Tunnel Endpoint Identifier for control plane messages, which is chosen by the new SGSN. The old SGSN shall include this Tunnel Endpoint Identifier in the GTP header of all subsequent control plane messages that are sent from the old SGSN to the new SGSN and related to the PDP context(s) requested.

The MS Validated indicates that the new SGSN has successfully authenticated the MS. IMSI shall be included if MS Validated indicates 'Yes'.

The P-TMSI Signature is conditionally provided by the MS to the new SGSN for identification checking purposes as defined in GSM 3G TS 23.060 and 3G TS 24.008. If the MS has provided the P-TMSI Signature, the new SGSN shall include this parameter in the SGSN Context Request message.

The optional Private Extension contains vendor or operator specific information.

Table 26: Information Elements in a SGSN Context Request

Information element	Presence requirement	Reference
IMSI	Conditional	7.7.2
Routeing Area Identity (RAI)	Mandatory	7.7.3
Temporary Logical Link Identifier (TLLI)	Conditional	7.7.4
Packet TMSI (P-TMSI)	Conditional	7.7.5
P-TMSI Signature	Conditional	7.7.9
MS Validated	Optional	7.7.10
Tunnel Endpoint Identifier Control Plane	Mandatory	7.7.14
SGSN Address for Control Plane	Mandatory	7.7.32
Private Extension	Optional	7.7.44

3GPP TSG-CN-WG4 Meeting #09 **N4-010964**
Dresden, GERMANY, 9th - 13th July 2001

CR-Form-v4

CHANGE REQUEST

⌘ **29.060** **CR** **244** ⌘ rev **1** ⌘ Current version: **3.9.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM ☐ ME/UE ☐ Radio Access Network ☐ Core Network **X**

Title:	⌘	Charging Characteristics Inclusion in Create PDP Context Message
Source:	⌘	Hutchison 3g
Work item code:	⌘	GTP Enhancements ***Date:*** ⌘ 9-07-2001
Category:	⌘	**F** (agreed by consensus) ***Release:*** ⌘ R99

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(Addition of feature),*
C *(Functional modification of feature)*
D *(Editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
REL-4 (Release 4)
REL-5 (Release 5)

Reason for change: ⌘ The current specification is ambiguous which has lead to a number of misunderstandings among TSG WGs (as seen from the LSs exchanged between SA5, SA2 and CN4), and seems to not fulfil operator's requirements regarding charging of roaming users.

Summary of change: ⌘ Rev 1

Added text is modified to refer to 23.060 to detail the conditions on inclusion, and 32.015 for detailed contents.

Also table is modified to show that the Charging Characteristics IE is Conditional rather than Optional

Rev 0
Text is added to clarify that the Charging Characteristics are included in the Create PDPD Context Message whenever received from HLR, and regardless of if they are used by SGSN, This applies in roaming case also. It is also noted that 32.015 will have the exact description of operation.

Consequences if not approved: ⌘ The specification remains ambiguous and implementations may not support correct charging in the roaming case.

Clauses affected: ⌘ 2, 7.3.1

Other specs affected: ⌘
☐ Other core specifications ⌘
☐ Test specifications
☐ O&M Specifications

Other comments: ⌘

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3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] 3GPP TR 21.905: "3G Vocabulary".

[2] 3GPP TS 23.003: "Numbering, addressing and identification".

[3] 3GPP TS 23.007: "Restoration Procedures".

[4] 3GPP TS 23.060: "General Packet Radio Service (GPRS); Service Description; Stage 2".

[5] 3GPP TS 24.008: "Mobile Radio Interface Layer 3 specification; Core Network Protocols-Stage 3".

[6] 3GPP TS 29.002: "Mobile Application Part (MAP) specification".

[7] 3GPP TS 25.413: "UTRAN Iu interface RANAP signalling".

[8] 3GPP TS 33.102: "Security Architecture".

[9] GSM 03.20: "Digital cellular telecommunications system (Phase 2+); Security related network functions".

[10] GSM 03.64: "Digital cellular telecommunications system (Phase 2+); General Packet Radio Service (GPRS); Overall description of the GPRS Radio Interface; Stage 2".

[11] GSM 04.64: "Digital cellular telecommunications system (Phase 2+); Mobile Station - Serving GPRS Support Node (MS-SGSN) Logical Link Control (LLC) Layer Specification".

[12] STD 0005: "Internet Protocol", J. Postel.

[13] STD 0006: "User Datagram Protocol", J. Postel.

[14] RFC 1700: "Assigned Numbers", J. Reynolds and J. Postel.

[15] RFC 2181: "Clarifications to the DNS Specification", R. Elz and R. Bush.

[16] 3GPP TS 23.007: "Restoration Procedures".

[17] 3GPP TS 23.121: "Architectural Requirements for Release 1999".

[18] 3GPP TS 32.015: Charging and billing ; 3G call and event data for the Packet Switched (PS) domain

7.3 Tunnel Management Messages

7.3.1 Create PDP Context Request

A Create PDP Context Request shall be sent from a SGSN node to a GGSN node as a part of the GPRS PDP Context Activation procedure. After sending the Create PDP Context Request message, the SGSN marks the PDP context as 'waiting for response'. In this state the SGSN shall accept G-PDUs from the GGSN but shall not send these G-PDUs to the MS. A valid request initiates the creation of a tunnel between a PDP Context in a SGSN and a PDP Context in a GGSN. If the procedure is not successfully completed, the SGSN repeats the Create PDP Context Request message to the next GGSN address in the list of IP addresses, if there is one. If the list is exhausted the activation procedure fails.

The Tunnel Endpoint Identifier Data I field specifies a downlink Tunnel Endpoint Identifier for G-PDUs which is chosen by the SGSN. The GGSN shall include this Tunnel Endpoint Identifier in the GTP header of all subsequent downlink G-PDUs which are related to the requested PDP context.

The Tunnel Endpoint Identifier Control Plane field specifies a downlink Tunnel Endpoint Identifier for control plane messages which is chosen by the SGSN. The GGSN shall include this Tunnel Endpoint Identifier in the GTP header of all subsequent downlink control plane messages which are related to the requested PDP context. If the SGSN has already confirmed successful assignment of its Tunnel Endpoint Identifier Control Plane to the peer GGSN, this field shall not be present. The SGSN confirms successful assignment of its Tunnel Endpoint Identifier Control Plane the GGSN when it receives any message with its assigned Tunnel Endpoint Identifier Control Plane in the GTP header from the GGSN.

The MSISDN of the MS is passed to the GGSN inside the Create PDP Context Request; This additional information can be used when a secure access to a remote application residing on a server is needed. The GGSN would be in fact able to provide the user identity (i. e. the MSISDN) to the remote application server, providing it with the level of trust granted to users through successfully performing the GPRS authentication procedures, without having to re-authenticate the user at the application level.

If the MS requests a dynamic PDP address and a dynamic PDP address is allowed, then the PDP Address field in the End User Address information element shall be empty. If the MS requests a static PDP Address then the PDP Address field in the End User Address information element shall contain the static PDP Address. In case the PDP addresses carried in the End User Address and optionally in the Protocol Configuration Option information element contain contradicting information, the PDP address carried in the End User Address information element takes the higher precedence. The Quality of Service Profile information element shall be the QoS values to be negotiated between the MS and the SGSN at PDP Context activation.

The SGSN shall include an SGSN Address for control plane and an SGSN address for user traffic, which may differ from that provided by the underlying network service (e.g. IP). The GGSN shall store these SGSN Addresses and use them when sending control plane on this GTP tunnel or G-PDUs to the SGSN for the MS.

The SGSN shall include a Recovery information element into the Create PDP Context Request if the SGSN is in contact with the GGSN for the very first time or if the SGSN has restarted recently and the new Restart Counter value has not yet been indicated to the GGSN. The GGSN that receives a Recovery information element in the Create PDP Context Request message element shall handle it in the same way as when receiving an Echo Response message. The Create PDP Context Request message shall be considered as a valid activation request for the PDP context included in the message.

The SGSN shall include either the MS provided APN, a subscribed APN or an SGSN selected APN in the message; the Access Point Name may be used by the GGSN to differentiate accesses to different external networks.
The Selection Mode information element shall indicate the origin of the APN in the message.

For contexts created by the Secondary PDP Context Activation Procedure the SGSN shall include the linked NSAPI. Linked NSAPI indicates the NSAPI assigned to any one of the already activated PDP contexts for this PDP address and APN.

The Secondary PDP Context Activation Procedure may be executed without providing a Traffic Flow Template (TFT) to the newly activated PDP context if all other active PDP contexts for this PDP address and APN already have an associated TFT, otherwise a TFT shall be provided. TFT is used for packet filtering in the GGSN.

When using the Secondary PDP Context Activation Procedure, the Selection mode, IMSI, MSISDN, End User Address, Access Point Name and Protocol Configuration Options information elements shall not be included in the message.

The optional Protocol Configuration Options information element is applicable for the end user protocol 'IP' only.

The SGSN shall select one GGSN based on the user provided or SGSN selected APN. The GGSN may have a logical name that is converted to an address. The conversion may be performed with any name-to-address function. The converted address shall be stored in the "GGSN Address in Use" field in the PDP context and be used during the entire lifetime of the PDP context.

NOTE: A DNS query may be used as the name-to-IP address mapping of the GGSN. The IP address returned in the DNS response is then stored in the "GGSN Address in Use" field in the PDP context.

The IMSI information element together with the NSAPI information element uniquely identifies the PDP context to be created.

The SGSN may send a Create PDP Context Request even if the PDP context is already active.

The GGSN shall check if the PDP context already exists for the MS. The existing parameters in the PDP context shall then be replaced with the parameters in the Create PDP Context Request message. If a dynamic PDP address has already been allocated for the existing context, this address should be used and copied to the Create PDP Context Response message.

If the GGSN uses the MNRG flag and the flag is set, the GGSN should treat the Create PDP Context Request as a Note MS Present Request and clear the MNRG flag.

The SGSN shall determine Charging Characteristics from the Subscribed Charging Characteristics and/or PDP Context Charging Characteristics depending on the presence of the information in the Packet Domain Subscription Data as defined in 3G TS 23.060 [4]. The requirements for the presence of the Charging Characteristics IE are defined in 3G TS 23.060 [4]. The contents of the Charging Characteristics IE are defined in 3G TS 32.015 [17].

The SGSN shall include Trace Reference, Trace Type, Trigger Id, and OMC Identity in the message if GGSN trace is activated. The SGSN shall copy Trace Reference, Trace Type, and OMC Identity from the trace request received from the HLR or OMC.

The optional Private Extension contains vendor or operator specific information.

Table 5: Information Elements in a Create PDP Context Request

Information element	Presence requirement	Reference
IMSI	Conditional	7.7.2
Recovery	Optional	7.7.11
Selection mode	Conditional	7.7.12
Tunnel Endpoint Identifier Data I	Mandatory	7.7.13
Tunnel Endpoint Identifier Control Plane	Conditional	7.7.14
NSAPI	Mandatory	7.7.17
Linked NSAPI	Conditional	7.7.17
Charging Characteristics	~~Optional~~Conditional	7.7.23
Trace Reference	Optional	7.7.24
Trace Type	Optional	7.7.25
End User Address	Conditional	7.7.27
Access Point Name	Conditional	7.7.30
Protocol Configuration Options	Conditional	7.7.31
SGSN Address for signalling	Mandatory	GSN Address 7.7.32
SGSN Address for user traffic	Mandatory	GSN Address 7.7.32
MSISDN	Conditional	7.7.33
Quality of Service Profile	Mandatory	7.7.34
TFT	Conditional	7.7.36
Trigger Id	Optional	7.7.41
OMC Identity	Optional	7.7.42
Private Extension	Optional	7.7.44

3GPP TSG-CN-WG4 Meeting #09 **N4-010965**
Dresden, GERMANY, 9th - 13th July 2001

CR-Form-v4

CHANGE REQUEST

⌘ **29.060** **CR** **245** ⌘ rev **1** ⌘ Current version: **4.1.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM ☐ ME/UE ☐ Radio Access Network ☐ Core Network **X**

Title:	⌘	Charging Characteristics Inclusion in Create PDP Context Message
Source:	⌘	Hutchison 3g
Work item code:	⌘	GTP Enhancements
Date:	⌘	9-07-2001
Category:	⌘	**A**
Release:	⌘	REL-4

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(Addition of feature),*
C *(Functional modification of feature)*
D *(Editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
REL-4	*(Release 4)*
REL-5	*(Release 5)*

Reason for change:	⌘	The current specification is ambiguous which has lead to a number of misunderstandings among TSG WGs (as seen from the LSs exchanged between SA5, SA2 and CN4), and seems to not fulfil operator's requirements regarding charging of roaming users.
Summary of change:	⌘	Rev 1 Added text is modified to refer to 23.060 to detail the conditions on inclusion, and 32.015 for detailed contents. Also table is modified to show that the Charging Characteristics IE is Conditional rather than Optional Rev 0 Text is added to clarify that the Charging Characteristics are included in the Create PDPD Context Message whenever received from HLR, and regardless of if they are used by SGSN, This applies in roaming case also. It is also noted that 32.215 will have the exact description of operation.
Consequences if not approved:	⌘	The specification remains ambiguous and implementations may not support correct charging in the roaming case.

Clauses affected:	⌘	2, 7.3.1
Other specs affected:	⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments:	⌘	Title of 32.215 needs to be checked in references

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3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

2 References

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- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] 3GPP TR 21.905: "3G Vocabulary".

[2] 3GPP TS 23.003: "Numbering, addressing and identification".

[3] 3GPP TS 23.007: "Restoration Procedures".

[4] 3GPP TS 23.060: "General Packet Radio Service (GPRS); Service Description; Stage 2".

[5] 3GPP TS 24.008: "Mobile Radio Interface Layer 3 specification; Core Network Protocols-Stage 3".

[6] 3GPP TS 29.002: "Mobile Application Part (MAP) specification".

[7] 3GPP TS 25.413: "UTRAN Iu interface RANAP signalling".

[8] 3GPP TS 33.102: "Security Architecture".

[9] GSM 03.20: "Digital cellular telecommunications system (Phase 2+); Security related network functions".

[10] GSM 03.64: "Digital cellular telecommunications system (Phase 2+); General Packet Radio Service (GPRS); Overall description of the GPRS Radio Interface; Stage 2".

[11] GSM 04.64: "Digital cellular telecommunications system (Phase 2+); Mobile Station - Serving GPRS Support Node (MS-SGSN) Logical Link Control (LLC) Layer Specification".

[12] STD 0005: "Internet Protocol", J. Postel.

[13] STD 0006: "User Datagram Protocol", J. Postel.

[14] RFC 1700: "Assigned Numbers", J. Reynolds and J. Postel.

[15] RFC 2181: "Clarifications to the DNS Specification", R. Elz and R. Bush.

[16] 3GPP TS 23.007: "Restoration Procedures".

[17] 3GPP TS 23.121: "Architectural Requirements for Release 1999".

[18] 3GPP TS 32.215 : Charging data description for the packet switched domain

7.3 Tunnel Management Messages

7.3.1 Create PDP Context Request

A Create PDP Context Request shall be sent from a SGSN node to a GGSN node as a part of the GPRS PDP Context Activation procedure. After sending the Create PDP Context Request message, the SGSN marks the PDP context as 'waiting for response'. In this state the SGSN shall accept G-PDUs from the GGSN but shall not send these G-PDUs to the MS. A valid request initiates the creation of a tunnel between a PDP Context in a SGSN and a PDP Context in a GGSN. If the procedure is not successfully completed, the SGSN repeats the Create PDP Context Request message to the next GGSN address in the list of IP addresses, if there is one. If the list is exhausted the activation procedure fails.

The Tunnel Endpoint Identifier Data I field specifies a downlink Tunnel Endpoint Identifier for G-PDUs which is chosen by the SGSN. The GGSN shall include this Tunnel Endpoint Identifier in the GTP header of all subsequent downlink G-PDUs which are related to the requested PDP context.

The Tunnel Endpoint Identifier Control Plane field specifies a downlink Tunnel Endpoint Identifier for control plane messages which is chosen by the SGSN. The GGSN shall include this Tunnel Endpoint Identifier in the GTP header of all subsequent downlink control plane messages which are related to the requested PDP context. If the SGSN has already confirmed successful assignment of its Tunnel Endpoint Identifier Control Plane to the peer GGSN, this field shall not be present. The SGSN confirms successful assignment of its Tunnel Endpoint Identifier Control Plane the GGSN when it receives any message with its assigned Tunnel Endpoint Identifier Control Plane in the GTP header from the GGSN.

The MSISDN of the MS is passed to the GGSN inside the Create PDP Context Request; This additional information can be used when a secure access to a remote application residing on a server is needed. The GGSN would be in fact able to provide the user identity (i. e. the MSISDN) to the remote application server, providing it with the level of trust granted to users through successfully performing the GPRS authentication procedures, without having to re-authenticate the user at the application level.

If the MS requests a dynamic PDP address and a dynamic PDP address is allowed, then the PDP Address field in the End User Address information element shall be empty. If the MS requests a static PDP Address then the PDP Address field in the End User Address information element shall contain the static PDP Address. In case the PDP addresses carried in the End User Address and optionally in the Protocol Configuration Option information element contain contradicting information, the PDP address carried in the End User Address information element takes the higher precedence. The Quality of Service Profile information element shall be the QoS values to be negotiated between the MS and the SGSN at PDP Context activation.

The SGSN shall include an SGSN Address for control plane and an SGSN address for user traffic, which may differ from that provided by the underlying network service (e.g. IP). The GGSN shall store these SGSN Addresses and use them when sending control plane on this GTP tunnel or G-PDUs to the SGSN for the MS.

The SGSN shall include a Recovery information element into the Create PDP Context Request if the SGSN is in contact with the GGSN for the very first time or if the SGSN has restarted recently and the new Restart Counter value has not yet been indicated to the GGSN. The GGSN that receives a Recovery information element in the Create PDP Context Request message element shall handle it in the same way as when receiving an Echo Response message. The Create PDP Context Request message shall be considered as a valid activation request for the PDP context included in the message.

The SGSN shall include either the MS provided APN, a subscribed APN or an SGSN selected APN in the message; the Access Point Name may be used by the GGSN to differentiate accesses to different external networks.
The Selection Mode information element shall indicate the origin of the APN in the message.

For contexts created by the Secondary PDP Context Activation Procedure the SGSN shall include the linked NSAPI. Linked NSAPI indicates the NSAPI assigned to any one of the already activated PDP contexts for this PDP address and APN.

The Secondary PDP Context Activation Procedure may be executed without providing a Traffic Flow Template (TFT) to the newly activated PDP context if all other active PDP contexts for this PDP address and APN already have an associated TFT, otherwise a TFT shall be provided. TFT is used for packet filtering in the GGSN.

When using the Secondary PDP Context Activation Procedure, the Selection mode, IMSI, MSISDN, End User Address, Access Point Name and Protocol Configuration Options information elements shall not be included in the message.

The optional Protocol Configuration Options information element is applicable for the end user protocol 'IP' only.

The SGSN shall select one GGSN based on the user provided or SGSN selected APN. The GGSN may have a logical name that is converted to an address. The conversion may be performed with any name-to-address function. The converted address shall be stored in the "GGSN Address in Use" field in the PDP context and be used during the entire lifetime of the PDP context.

NOTE: A DNS query may be used as the name-to-IP address mapping of the GGSN. The IP address returned in the DNS response is then stored in the "GGSN Address in Use" field in the PDP context.

The IMSI information element together with the NSAPI information element uniquely identifies the PDP context to be created.

The SGSN may send a Create PDP Context Request even if the PDP context is already active.

The GGSN shall check if the PDP context already exists for the MS. The existing parameters in the PDP context shall then be replaced with the parameters in the Create PDP Context Request message. If a dynamic PDP address has already been allocated for the existing context, this address should be used and copied to the Create PDP Context Response message.

If the GGSN uses the MNRG flag and the flag is set, the GGSN should treat the Create PDP Context Request as a Note MS Present Request and clear the MNRG flag.

The SGSN shall determine Charging Characteristics from the Subscribed Charging Characteristics and/or PDP Context Charging Characteristics depending on the presence of the information in the Packet Domain Subscription Data as defined in 3GPP TS 23.060 [4]. The requirements for the presence of the Charging Characteristics IE are defined in 3G TS 23.060 [4]. The contents of the Charging Characteristics IE are defined in 3G TS 32.215 [18].

The SGSN shall include Trace Reference, Trace Type, Trigger Id, and OMC Identity in the message if GGSN trace is activated. The SGSN shall copy Trace Reference, Trace Type, and OMC Identity from the trace request received from the HLR or OMC.

The optional Private Extension contains vendor or operator specific information.

Table 5: Information Elements in a Create PDP Context Request

Information element	Presence requirement	Reference
IMSI	Conditional	7.7.2
Recovery	Optional	7.7.11
Selection mode	Conditional	7.7.12
Tunnel Endpoint Identifier Data I	Mandatory	7.7.13
Tunnel Endpoint Identifier Control Plane	Conditional	7.7.14
NSAPI	Mandatory	7.7.17
Linked NSAPI	Conditional	7.7.17
Charging Characteristics	Conditional~~Optional~~	7.7.23
Trace Reference	Optional	7.7.24
Trace Type	Optional	7.7.25
End User Address	Conditional	7.7.27
Access Point Name	Conditional	7.7.30
Protocol Configuration Options	Conditional	7.7.31
SGSN Address for signalling	Mandatory	GSN Address 7.7.32
SGSN Address for user traffic	Mandatory	GSN Address 7.7.32
MSISDN	Conditional	7.7.33
Quality of Service Profile	Mandatory	7.7.34
TFT	Conditional	7.7.36
Trigger Id	Optional	7.7.41
OMC Identity	Optional	7.7.42
Private Extension	Optional	7.7.44

3GPP TSG CN WG4 Meeting #08 **Tdoc N4-010966**
Dresden, GERMANY, 9th - 13th July 2001

Category:	Liaison
From:	CN4
To:	SA5, SA2
Cc:	SA
Title:	Reply LS on consistent description regarding the use of Charging Characteristics
CN4 Contact :	Kevan Hobbis
	Kevan.hobbis@hutchison3g.com

TSG CN WG4 would like to thank TSG SA2 (liaison N4-010820) and TSG SA5 (liaison N4-010906) for their comments on the description of use of charging characteristics.

TSG CN WG4 would like to confirm that they agree with the conclusions of this correspondence between the groups as summarised in the liaison from SA2. In accordance with this conclusion TSG CN4 has drafted CR's to 3GPP TS 29.060 release 99 (CR 244) and release 4 (CR245) to reflect these conclusions.

The two CR's are attached for your information.

3GPP TSG CN WG4 Meeting #09 **Tdoc N4-010968**
Dresden, GERMANY, 9th - 13th July 2001

Source:	**TSG CN WG4**
Title:	**LS response to SA3 on "Using a generic authentication scheme for SIP"**
To:	**S3**
CC:	**S2, N1**

Contact Person:
Name: Miguel-Angel Pallares López
E-mail Address: **miguel-angel.pallares-lopez@ece.ericsson.se**

CN4 thanks SA3 for asking CN4 opinion on this matter. CN4 has analysed the use of EAP and Diameter NASREQ in the Cx interface and has come to the following conclusions.

As the authentication point is in the S-CSCF, the standard EAP model breaks in Cx interface. The EAP can be only used to encapsulate the security parameters and download parameters in the EAP format to the S-CSCF.

Encapsulating the authentication parameters inside EAP payloads has the advantage of making the Cx interface more generic and it is possible to re-use some of the existing AVPs, e.g. EAP-Payload and NAS-Session-Key AVP, from the NASREQ.

Although recognising that the model proposed by EAP is not fully applicable for 3GPP architecture, CN4 can see, from a protocol point of view, a possibility to transport authentication information on EAP payloads. It is CN4's intention to develop a protocol with the widest scope possible. In case that new authentication schemes were introduced in the future (e.g. due to the introduction of another access technologies or new authentication methods in 3GPP) the impacts in the protocol (Diameter application for the Cx interface) would be minimised if a generic authentication framework were supported. The 3GPP system may also lead to similar interoperation issues as with the UMTS and GSM authentication had if new authentication method is introduced in 3GPP. In this case the EAP may not anymore secure against 'bidding-down' attacks from the S-CSCF where the S-CSCF may be able to negotiate a lower authentication method with the HSS.

The use of NASREQ also breaks. Therefore, the re-use of the NASREQ command codes is not reasonable. However, the re-use of the some of the NASREQ AVPs is still possible and CN4 is investigating this approach.

3GPP TSG CN WG4 Meeting #09 **Tdoc N4-010969**
Dresden, GERMANY, 9th - 13th July 2001

Source: **TSG CN WG4**

Title: **LS to SA3 on Signalling for user authentication**

To: **S3**

CC: **S2, N1**

Contact Person:
Name: Miguel-Angel Pallares López
E-mail Address: **miguel-angel.pallares-lopez@ece.ericsson.se**

This LS contains the response from CN4 to the following LSs received from SA3 in CN4#9 (9th-13th July, 2001):

- S3-010382 (N4-010942)

  The current working assumption that the S-CSCF is unique for a certain user is shared by CN4. Should that circumstance change, we kindly ask SA2 for prompt notification.

  CN4 does not foresee any problem, from the protocol point of view, to download more than one authentication vector if that is required. Such requirement should be indicated at stage-2 so that it could be reflected at protocol level.

- S3-010387 (N4-010943)

  CN4 thanks SA3 for the clarifications about the possibilities for optimisation of the flows on the Cx interface. CN4 is aware of the necessity of making the signalling flows as efficient as possible and will try to do so during the development of the protocol.

  Concerns have been raised at CN4 about the statement in which SA3 says that it sees no need for Authentication Failure Reporting or Positive Authentication Reporting back to the HSS after the authentication has taken place. On the other hand, when describing the handling of mobile terminated calls in course of registration, it is stated that a flag is stored in the HSS during the authentication phase to indicate that registration is in progress. When would that flag be cleared if no information is given to the HSS about the success or failure of the authentication process? From an optimisation point of view another procedure not requiring the clearing of such flag seems to be more reasonable.

- S3-010402 (N4-010945)

  CN4 kindly asks to be informed about the decision regarding the use of the different user identities.

  Although CN4 doesn't see any problem in downloading all the identities available in the HSS as required by the first approach for the validation of public identities proposed by SA3 in its LS, concerns have been raised about its inefficiency in signalling. CN4 kindly requests a clarification from SA3 about this. The second approach seems a much simpler one, from the point of view of CN4.

3GPP TSG-CN4 Meeting #09 **N4-010974**
Dresden, Germany, 9th –13th July 2001

CR-Form-v4

CHANGE REQUEST

⌘ **29.060** **CR** 230 ⌘ rev **1** ⌘ Current version: **4.1.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: ⌘ (U)SIM ☐ ME/UE ☐ Radio Access Network ☐ Core Network ☒

Title:	⌘	Introduction of the Suspend-resume functionality in Rel-4 GTP specification
Source:	⌘	Lucent Technologies
Work item code:	⌘	GTP enhancements ***Date:*** ⌘ 12-07-2001
Category:	⌘	**F** alignment with stage 2 ***Release:*** ⌘ Rel-4

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(Addition of feature),*
C *(Functional modification of feature)*
D *(Editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
REL-4 (Release 4)
REL-5 (Release 5)

Reason for change:	⌘	The stage 2 GPRS specification (23.060) has been changed recently to add a new feature for R'99. CN4 have agreed in Puerto rico that it is too late for such a change to be reflected in the GTP R99 specification andd a preferable option would have been to find a solution that would meet these requirements: 1) Be part of R4 2) Not introduce backward compatibility problems
Summary of change:	⌘	New Extension headers have been introduced to make sure that the handling of existing GTP messages is modified, when they are present, to functionally fulfill the stage 2 definition of Suspend messages.
Consequences if not approved:	⌘	The agreed position from N4 would not be fulfilled, and staged 2 and stage 3 would lack alignment strategy.

Clauses affected:	⌘	6.1
Other specs affected:	⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments:	⌘	

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://www.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

6 GTP Header

The GTP header is a variable length header used for both the GTP-C and the GTP-U protocols. The minimum length of the GTP header is 8 bytes. There are three flags that are used to signal the presence of additional optional fields: the PN flag, the S flag and the E flag. The PN flag is used to signal the presence of N-PDU Numbers. The S flag is used to signal the presence of the GTP Sequence Number field. The E flag is used to signal the presence of the Extension Header field, used to enable future extensions of the GTP header defined in this document, without the need to use another version number. If any of these three flags are set, the length of the header is at least 12 octets and the fields corresponding to the flags that are set shall be evaluated by the receiver. The sender shall set all the bits of the unused fields to zero. The receiver shall not evaluate the unused fields.

The GTP-C and the GTP-U use some of the fields in the GTP header differently. The different use of such fields is described in the sections related to GTP-C and to GTP-U.

Always present fields:

- Version field: This field is used to determine the version of the GTP protocol. For the treatment of other versions, see subclause 11.1.1, "Different GTP versions". The version number shall be set to ‘1’.

- Protocol Type (PT): This bit is used as a protocol discriminator between GTP (when PT is ‘1’) and GTP’ (when PT is ‘0’). GTP is described in this document and the GTP’ protocol in GSM 12.15. Note that the interpretation of the header fields may be different in GTP’ than in GTP.

- Extension Header flag (E): This flag indicates the presence of the Next Extension Header field when it is set to ‘1’. When it is set to’ 0’, the Next Extension Header field either is not present or, if present, must not be interpreted.

- Sequence number flag (S): This flag indicates the presence of the Sequence Number field when it is set to ‘1’. When it is set to ‘0’, the Sequence Number field either is not present or, if present, must not be interpreted. The S flag shall be set to ‘1’ in GTP-C messages and in GTP-U/GTP signalling type of messages.

- N-PDU Number flag (PN): This flag indicates the presence of the N-PDU Number field when it is set to ‘1’. When it is set to ‘0’, the N-PDU Number field either is not present, or, if present, must not be interpreted. This flag is significant only for GTP-U. As such, this flag is unused by GTP-C and it shall be ignored by a GTP-C receiving entity.

- Message Type: This field indicates the type of GTP message. The valid values of the message type are defined in subclause 7.1 for both GTP-C and GTP-U.

- Length: This field indicates the length in octets of the payload, i.e. the rest of the packet following the mandatory part of the GTP header (that is the first 8 octets). The Sequence Number, the N-PDU Number or any Extension headers shall be considered to be part of the payload, i.e. included in the length count.

- Tunnel Endpoint Identifier (TEID): This field unambiguously identifies a tunnel endpoint in the receiving GTP-U or GTP-C protocol entity. The receiving end side of a GTP tunnel locally assigns the TEID value the transmitting side has to use. The TEID values are exchanged between tunnel endpoints using GTP-C (or RANAP, over the Iu) messages.

Optional fields:

- Sequence Number: This field is an optional field in G -PDUs. It is used as a transaction identity for signalling messages having a response message defined for a request message, that is the Sequence Number value is copied from the request to the response message header. In the user plane, an increasing sequence number for T-PDUs is transmitted via GTP-U tunnels, when transmission order must be preserved.

- N-PDU Number: This field is used at the Inter SGSN Routeing Area Update procedure and some inter-system handover procedures (e.g. between 2G and 3G radio access networks). This field is used to co-ordinate the data transmission for acknowledged mode of communication between the MS and the SGSN. The exact meaning of this field depends upon the scenario. (For example, for GSM/GPRS to GSM/GPRS, the SNDCP N-PDU number is present in this field).

- Next Extension Header Type: This field defines the type of Extension Header that follows this field in the GTP-PDU.

	Bits							
Octets	**8**	**7**	**6**	**5**	**4**	**3**	**2**	**1**
1	Version			PT	(*)	E	S	PN
2	Message Type							
3	Length (1st Octet)							
4	Length (2nd Octet)							
5	Tunnel Endpoint Identifier (1st Octet)							
6	Tunnel Endpoint Identifier (2nd Octet)							
7	Tunnel Endpoint Identifier (3rd Octet)							
8	Tunnel Endpoint Identifier (4th Octet)							
9	Sequence Number (1st Octet) 1) 4)							
10	Sequence Number (2nd Octet) 1) 4)							
11	N-PDU Number 2) 4)							
12	Next Extension Header Type 3) 4)							

(*) This bit is a spare bit. It shall be sent as '0'. The receiver shall not evaluate this bit.
1) This field shall only be evaluated when indicated by the S flag.
2) This field shall only be evaluated when indicated by the PN flag.
3) This field shall only be evaluated when indicated by the E flag.
4) This field shall be present when any one or more of the S, PN and E flags are set.

Figure 2: Outline of the GTP Header

The format of GTP Extension Headers is depicted in Figure 2. The Extension Header Length field specifies the length of the particular Extension header in 4 octets units. The Next Extension Header Type field specifies the type of any Extension Header that may follow a particular Extension Header. If no such Header follows, then the value of the Next Extension Header Type shall be 0.

Octets	
1	Extension Header Length
2 - m	Extension Header Content
m+1	Next Extension Header Type (*)

(*) The value of this field is 0 if no other Extension header follows.

Figure 3: Outline of the Extension Header Format

The length of the Extension header shall be defined in a variable length of 4 octets, i.e. m+1 = n*4 octets, where n is a positive integer.

Bits 7 and 8 of the Next Extension Header Type define how the recipient shall handle unknown Extension Types. The recipient of an extension header of unknown type but marked as 'comprehension not required' for that recipient shall read the 'Next Extension Header Type' field (using the Extension Header Length field to identify its location in the GTP-PDU).

The recipient of an extension header of unknown type but marked as 'comprehension required' for that recipient shall:

- If the message with the unknown extension header was a request, send a response message back with CAUSE set to "unknown mandatory extension header".
- Send a Supported Extension Headers Notification to the originator of the GTP PDU.
- Log an error.

Bits 7 and 8 of the Next Extension Header Type have the following meaning:

Bits 8	7	Meaning
0	0	Comprehension of this extension header is not required. An Intermediate Node shall forward it to any Receiver Endpoint
0	1	Comprehension of this extension header is not required. An Intermediate Node shall discard the Extension Header Content and not forward it to any Receiver Endpoint. Other extension headers shall be treated independently of this extension header.
1	0	Comprehension of this extension header is required by the Endpoint Receiver but not by an Intermediate Node. An Intermediate Node shall forward the whole field to the Endpoint Receiver.
1	1	Comprehension of this header type is required by recipient (either Endpoint Receiver or Intermediate Node)

Figure 4: Definition of bits 7 and 8 of the Extension Header Type

An Endpoint Receiver is the ultimate receiver of the GTP-PDU (e.g. an RNC or the GGSN for the GTP-U plane). An Intermediate Node is a node that handles GTP but is not the ultimate endpoint (e.g. an SGSN for the GTP-U plane traffic between GGSN and RNC).

Next Extension Header Field Value	Type of Extension Header
0000 0000	No more extension headers
1100 0000	PDCP PDU number
1100 0001	Suspend Request
1100 0010	Suspend Response

Figure 5: Definition of Extension Header Type

6.1 Extension headers

6.1.1 PDCP PDU Number

This extension header is transmitted, for example, at SRNS relocation time to provide the PDCP sequence number of not yet acknowledged N-PDUs. It is 4 octets long, and therefore the Length field has value 1.

	Bits							
Octets	**8**	**7**	**6**	**5**	**4**	**3**	**2**	**1**
1	1							
2	PDCP PDU number							
3	PDCP PDU number.							
4	Next Extension Header Type (*)							

(*) The value of this field is 0 if no other Extension header follows.

Figure 6: PDCP PDU number Extension Header

6.1.2 Suspend Request

This extension header is transmitted at inter-SGSN handover, when a DTM capable MS has an ongoing circuit call and it moves to a cell that does not support DTM, under the domain of a new 2G SGSN. When the new SGSN receives a "Suspend" message from the BSS, it sends a SGSN context request with this additional extension header to the old SGSN. The old SGSN shall reply with a SGSN context response, including the Extension Header described in section

6.1.3. The SGSN Context Request message shall not be handled other than for the purpose of implementing the Suspend functionality as described in 23.060. The "SGSN context request" message shall not include the "IMSI", "packet-TMSI", "packet TMSI signature" and "MS validated" IEs.

	Bits							
Octets	**8**	**7**	**6**	**5**	**4**	**3**	**2**	**1**
1	1							
2	0xFF							
3	0xFF							
4	Next Extension Header Type (*)							

(*) The value of this field is 0 if no other Extension header follows.
Figure 7: Suspend Request Extension Header

6.1.3 Suspend Response

When a SGSN receives a SGSN Context Request with the extension header "Suspend Request"described in 6.1.2, it shall perform the actions specified in 23.060 and it shall return a SGSN Context Response with this extension header included. The SGSN Context Response message shall not be handled other than for the purpose of implementing the Suspend functionality as described in 23.060. The "SGSN context response" shall not include the "IMSI", "Radio priority SMS", "Radio priority", "packet flow ID", "MM context", "PDP context" and "SGSN Address for control plane" IEs.

	Bits							
Octets	**8**	**7**	**6**	**5**	**4**	**3**	**2**	**1**
1	1							
2	0xFF							
3	0xFF							
4	Next Extension Header Type (*)							

(*) The value of this field is 0 if no other Extension header follows.
Figure 8: Suspend Response Extension Header

3GPP TSG CN WG4 Meeting #09 **Tdoc N4-010982**
Dresden, GERMANY, 9th - 13th July 2001

Title: **Liaison Statement on adding a RANAP cause to the Relocation Cancel Request**

Source: **TSG-CN WG4**

To: **TSG-SA WG2**

cc:

Contact Person:
Name: Ian Park
E-mail Address: ian.park@vodafone.co.uk
Tel. Number: +44 1635 673 527

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1. Overall Description:

CN WG4 have reviewed a contribution which proposes to add to TS 29.060 a RANAP cause for the Relocation Cancel Request. A proposal to make this change for Release 99 was submitted to the CN WG4 meeting in February 2001, but it was rejected for three reasons:

- The change was seen as a functional enhancement, rather than the correction of an error;
- There was no corresponding requirement in the stage 2 specification (TS 23.060);
- Implementers were reluctant to introduce a significant technical change to Release 99 a year after that release was functionally complete.

The proposed change was re-submitted **as a change for Release 4** to this CN WG4 meeting. We noted that SA2 have agreed the corresponding change to TS 23.060 for both Release 99 and Release 4; this overcomes the first and second objections which were raised in our February meeting (it will be for SA2 to convince TSG-SA that the stage 2 changes are acceptable for Release 99 and Release 4). However the third objection still remains – if anything the concern over the late change to Release 99 is stronger. Indeed, the company which submitted the change request to TS 29.060 did not bring a corresponding change request to TS 29.060 for Release 99.

A further concern was expressed in CN WG4: that introducing a change for Release 4 without the corresponding change to Release 99 has implications for cross-release incompatibility which need further study. This led to the CR for Release 4 being withdrawn while the study was done.

The situation which we have now is that there is still a misalignment between the stage 2 and stage 3 specifications. This would normally be handled by amending the stage 3 specification to align it with the stage 2 specification. However more than one delegation in CN WG4 indicated that they could not agree to the stage 3 change for Release 99.

2. Actions:

To SA WG2

ACTION: TSG-CN WG4 ask SA WG2 to reconsider their decision to add the handling of the RANAP cause to the Relocation Cancel Request.

3. Dates of Next TSG-CN WG4 Meetings:

TSG-CN WG4 #10	15th – 19th October 2001	Brighton, UK.
TSG-CN WG4 #11	26th – 30th November 2001	Cancun, Mexico.

3GPP TSG CN WG4 Meeting #08 **Tdoc N4-010983**
Dresden, GERMANY, 9th - 13th July 2001

Title: On introduction of the inter-SGSN Suspend-Resume functionality in Rel-4

Source: Lucent Technologies

To: SA2

cc:

Contact Person:
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1. Overall Description:

SA2 have introduced in 23.060 R99 an inter-SGSN Suspend-Resume functionality. However it has been consensus of CN4 not to introduce this functionality in 29.060 until Rel-4, due to the very late introduction of this new feature. CN4 have already agreed a CR (tdoc N4-010974) introducing in GTP Rel-4 an extension meeting the required functionality in a backward compatible fashion.

2. Actions:

To SA2 group.

ACTION: TSG CN WG4 ask SA2 group to reconsider the introduction of the Inter-SGSN Suspend-Resume functionality in R99, so that stage2 and stage 3 will be aligned.

4. Attachments:

N4-010974

n4-010974.zip

3GPP TSG CN WG4 Meeting #09 **Tdoc N4-010984**
Dresden, GERMANY, 9th - 13th July 2001

Title: Presence of IMSI TLLI or P-TMSI in SGSN context request message

Source: TSG_CN_WG4

To: TSG_SA_WG2

cc: TSG_CN_WG1

Contact Person:
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1. Overall Description:

TSG_CN WG4 would like to inform TSG_SA WG2 regarding a change request agreed by CN4 #09 about the interpretation of CN4 of the presence of TLLI, P-TMSI and IMSI in SGSN context request message. CN4 understanding is that only one of the information elements (TLLI, P-TMSI, IMSI) shall be present.

2. Actions:

To SA2 group.

ACTION: TSG CN WG4 asks SA2 group to response if they do not agree on the changes.

3. Date of Next CNx Meetings:

CN4_10 15th – 19th October 2001 Brighton, UK.

4. Attachments:

N4-010959 CR 29.060-237 Rewording usage of P-TIMSI and TLLI in "SGSN context request".

N4-010959.zip