3GPP TSG_CN **Tdoc NP-000459**
Plenary Meeting #9, Oahu, Hawaii
20th – 22nd September 2000.

Source: **TSG_N WG2**

Title: **CRs to R99 Work Item CAMEL phase 3 - Network Requested PDP context**

Agenda item: **8.2.2**

Document for: **APPROVAL**

Introduction:

This document contains 3 CRs on R99 Work Item **CAMEL phase 3** that has been agreed by TSG_N WG2, and is forwarded to TSG_N Plenary meeting #9 for approval.

Spec	CR	Rev	Doc-2nd-Level	Phase	Subject	Cat	Ver_C	Ver_N
23.078	181	2	N2-000280	R99	Indication of Network requested PDP Context in Initial DPGPRS message	F	3.5.0	3.6.0
23.078	217		N2-000409	R99	PDP establishment	F	3.5.0	3.6.0
29.078	099	3	N2-000337	R99	Indication of Network requested PDP Context in Initial DP GPRS message	F	3.4.1	3.5.0

3GPP TSG N2 #3
Helsinki, Finland, 17-21 July 2000

***Document* N2-000280**
e.g. for 3GPP use the format TP-99xxx
or for SMG, use the format P-99-xxx

CHANGE REQUEST

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23.078	CR	181r2	Current Version:	3.5.0

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ *↑ CR number as allocated by MCC support team*

For submission to:	CN#09	for approval	X	strategic		(for SMG use only)
list expected approval meeting # here ↑		for information		non-strategic		

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

Proposed change affects: (U)SIM [ ] ME [ ] UTRAN / Radio [ ] Core Network [X]
(at least one should be marked with an X)

Source: N2 **Date:** 12th July 2000

Subject: Indication of Network requested PDP Context in Initial DP GPRS message

Work item: CAMEL Phase 4

Category: *(only one category shall be marked with an X)*

F	Correction	X	**Release:**	Phase 2	
A	Corresponds to a correction in an earlier release			Release 96	
B	Addition of feature			Release 97	
C	Functional modification of feature			Release 98	
D	Editorial modification			Release 99	X
				Release 00	

Reason for change:

The current specification does not provide an indication to the gsmSCF that the PDP context activation request/acknowledgement was as a result of a network initiated action or of user initiated action. Specification 23.060 (version 3.2.1) uses the same part of the procedures for PDP Context Activation for both user and network initiate PDP Context – Sections 9.2.2.1 (PDP Context activation procedure), figure 59 and 9.2.2.2.1 (Successful network requested PDP context activation procedure), figure 63

A network initiated PDP context may not be subject to changes to the APN as this was initially supplied to the MS by the network. In this case such an indication would allow the service logic in the gsmSCF to act appropriately.

This CR proposes to an indication in the InitialDP GPRS message as to who initiated the PDP context. This indication may only be reported to the gsmSCF at the PDPContextEstablishment or at the PDPContextEstablishmentAcknowledge DP. During an inter-SGSN change of position, the new SGSN does not know that a particular PDP was established by the user or as a result of a network request. As a result, this indication is not reported for inter SGSN change of position.

Clauses affected: 6.6.1.5.1

Other specs affected:

Other 3G core specifications	[ ]	→ List of CRs:
Other GSM core specifications	[ ]	→ List of CRs:
MS test specifications	[ ]	→ List of CRs:
BSS test specifications	[ ]	→ List of CRs:
O&M specifications	[ ]	→ List of CRs:

Other comments:

help.doc

<--------- double-click here for help and instructions on how to create a CR.

6.6.1.5 Initial DP GPRS

6.6.1.5.1 Description

This IF is generated by the gprsSSF when a trigger is detected at a DP in the GPRS state machines, to request instructions from the gsmSCF.

6.6.1.5.2 Information Elements

The following information elements are required:

Information element name	Required	Description
Gprs Reference Number	M	This IE contains an identifier that is allocated by the gprsSSF and it is used to identify the gprsSSF instance taking care of GPRS session or PDP context.
ServiceKey	M	This IE indicates to the gsmSCF the requested CAMEL Service. It is used to address the required application/SLP within the gsmSCF.
GPRS Event Type	M	This IE indicates the armed GPRS DP event resulting in the Initial Data Event IF.
MSISDN	M	This IE contains the basic MSISDN of the MS.
IMSI	M	This IE identifies the mobile subscriber.
Time and Time zone	M	This IE contains the time that the gprsSSF was triggered, and the time zone the gprsSSF resides in.
GPRS MS Class	C	This IE contains the MS network and radio access capabilities.
PDP Type	C	This IE identifies the PDP Type, e.g. X.25 or IP.
Quality of Service	C	This IE identifies the QoS (subscribed, requested or negotiated).
Access Point Name	C	This IE identifies the address Access Point Name the MS has requested to connect to.
Routeing Area Identity	C	This IE contains the location information of the MS.
Charging ID	C	This IE contains the Charging ID received from the GGSN for the PDP context.
SGSN Capabilities	C	This IE specifies the capabilities of the SGSN node to support the CAMEL interwork, e.g. support of Advice of Charge.
PDP Initiation Type	C	This IE indicates whether a PDP context was established as a result of a network-initiated request or as a result of a subscriber request.

M Mandatory (The IE shall always be sent).

C Conditional (The IE shall be sent, if available).

3GPP/SMG Meeting #13
Seattle, USA, 28 Aug - 1 Sep 2000

Document N2-000409
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CHANGE REQUEST

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23.078	CR	217	Current Version:	3.5.0

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ *↑ CR number as allocated by MCC support team*

For submission to: CN#9 *list expected approval meeting # here ↑*

for approval [ ] for information [ ]

strategic [ ] non-strategic [ ] *(for SMG use only)*

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

Proposed change affects: *(at least one should be marked with an X)* (U)SIM [ ] ME [ ] UTRAN / Radio [ ] Core Network [X]

Source: N2 **Date:** 30 Aug 2000

Subject: GPRS network initiated PDPc in GPRSEventSpecificInformation

Work item: CAMEL phase 3

Category: *(only one category shall be marked with an X)*

F	Correction	[X]	**Release:**	Phase 2	[ ]
A	Corresponds to a correction in an earlier release	[ ]		Release 96	[ ]
B	Addition of feature	[ ]		Release 97	[ ]
C	Functional modification of feature	[ ]		Release 98	[ ]
D	Editorial modification	[ ]		Release 99	[X]
				Release 00	[ ]

Reason for change: Nokia CRs introduce EDP specific information flows to stage 2 of CAMEL. The Lucent documents introduce an indication of network initiated PDP context. Thus, also this indication must be shown in stage 2 ERB information flows.

Clauses affected:

Other specs affected:

Other 3G core specifications	[X]	→ List of CRs:	23.078-CR206r1 (N2-000408), 29.078-CR115r1 (N2-000410), 23.078-CR181r2 (N2-000280), 29-078-CR099r3 (N2-000337)
Other GSM core specifications	[ ]	→ List of CRs:	
MS test specifications	[ ]	→ List of CRs:	
BSS test specifications	[ ]	→ List of CRs:	
O&M specifications	[ ]	→ List of CRs:	

Other comments:

- All the listed CR's must be approved (or their successors), before this CR can be approved.

****** FIRST MODIFIED SECTION ******

6.6.1 gprsSSF to gsmSCF Information Flows

…..

6.6.1.4 Event Report GPRS

6.6.1.4.1 Description

This IF is used to notify the gsmSCF of a GPRS event (e.g. Attach or Detach) previously requested by the gsmSCF in a Request Report GPRS Event IF.

6.6.1.4.2 Information Elements

The following information elements are required:

Information element name	Required	Description
Gprs Reference Number	C	This IE consists of a number assigned by the gprsSSF and a number assigned by the gsmSCF. It is used for TCAP dialogue segmentation. Refer to 3G TS 29.078 [5] for the usage of this element.
GPRS Event type	M	This IE specifies the type of event that is reported.
Misc GPRS Info	M	This IE indicates the DP type (EDP-N or EDP-R).
GPRS Event Specific Information	C	This IE contains information specific to the reported event, e.g. new routeing area in case of change of position or charging id in case of PDP Context Establishment Acknowledgement.
PDP ID	C	This IE identifies the PDP context, which the Report GPRS Event is applicable for. If not present the dialogue corresponds to the Attach/Detach State Model or to one single PDP context.

M Mandatory (The IE shall always be sent).

C Conditional (The IE shall be sent, if available).

If the *GPRS Event type* contains DP PDP context establishment, then the GPRS Event Specific Information IE contains the following information elements:

Information element name	Required	Description
Access Point Name	M	This IE identifies the address Access Point Name the MS has requested to connect to.
PDP Type	M	This IE identifies the PDP Type. See 3G TS 23.060.
Quality Of Service	M	This IE is described in the table below.
Location Information in SGSN	M	See subclause 7.6.1.2.2.
Time and Time Zone	M	This IE contains the time that the gprsSSF met the detection point, and the time zone the gprsSSF resides in.
PDP Initiation Type	M	This IE indicates whether a PDP context was established as a result of a network-initiated request or as a result of a subscriber request.

M Mandatory (The IE shall always be sent).

<CR editor's note: for the other fields than *PDP Initiation Type* the primary source is 23.078-CR206 and its revisions. The yellow highlighting shall not appear in the revised 3G TS 23.078; the highlighting is just for informational purposes>

3GPP TSG N2 #3
Helsinki, Finland, 17th – 21st July 2000

Document N2-000337
e.g. for 3GPP use the format TP-99xxx
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CHANGE REQUEST

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29.078	CR	099r3	Current Version:	3.4.1

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ *↑ CR number as allocated by MCC support team*

For submission to: CN#09	for approval	X	strategic		(for SMG use only)
list expected approval meeting # here ↑	for information		non-strategic		

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

Proposed change affects: *(at least one should be marked with an X)* (U)SIM [ ] ME [ ] UTRAN / Radio [ ] Core Network [X]

Source: N2 **Date:** 20th July 2000

Subject: Indication of Network requested PDP Context in Initial DP GPRS message

Work item: CAMEL Phase 3

Category: *(only one category shall be marked with an X)*

F	Correction	X
A	Corresponds to a correction in an earlier release	
B	Addition of feature	
C	Functional modification of feature	
D	Editorial modification	

Release:

Phase 2	
Release 96	
Release 97	
Release 98	
Release 99	X
Release 00	

Reason for change:

The current specification does not provide an indication to the gsmSCF that the PDP context activation request/acknowledgement was as a result of a network initiated action or of user initiated action. Specification 23.060 (version 3.2.1) uses the same part of the procedures for PDP Context Activation for both user and network initiate PDP Context – Sections 9.2.2.1 (PDP Context activation procedure), figure 59 and 9.2.2.2.1 (Successful network requested PDP context activation procedure), figure 63

A network initiated PDP context may not be subject to changes to the APN as this was initially supplied to the MS by the network. In this case such an indication would allow the service logic in the gsmSCF to act appropriately.

This CR proposes to an indication in the InitialDP GPRS (and the EventReportGPRS message) as to who initiated the PDP context. This indication may only be reported to the gsmSCF at the PDPContextEstablishment DP. During an inter-SGSN change of position, the new SGSN does not know that a particular PDP was established by the user or as a result of a network request. As a result, this indication is not reported for inter SGSN change of position.

Clauses affected: 5.1, 8.1, 11.25.1.1, 11.31.1.1,

Other specs affected:

Other 3G core specifications	X	→ List of CRs:	23.078
Other GSM core specifications		→ List of CRs:	
MS test specifications		→ List of CRs:	
BSS test specifications		→ List of CRs:	
O&M specifications		→ List of CRs:	

Other comments:

Revision of N2-000281, where the indication as to the initiator of the PDP context is now added to the EventReportGPRS message to allow for the case when DP PDPContextEstablishment is armed as an EDP (GPRS scenario “1” cases). The indication in the InitialDP would only capture GPRS scenario “2” cases.

****** FIRST MODIFIED SECTION ******

5 Common CAP Types

5.1 Data types

```
-- The Definition of Common Data Types follows
```

.. unmodified text ..

```
GPRSEventSpecificInformation {PARAMETERS-BOUND : bound}                ::= CHOICE {
        attachChangeOfPositionSpecificInformation
                                        [0] SEQUENCE {
                newRoutingAreaIdentity          [0] RAIdentity
                },
        pdp-ContextchangeOfPositionSpecificInformation
                                        [1] SEQUENCE {
                accessPointName             [0] AccessPointName {bound} OPTIONAL,
                chargingID                  [1] GPRSChargingID,
                newRoutingAreaIdentity      [2] RAIdentity,
                pDPType                     [3] PDPType                 OPTIONAL,
                qualityOfService            [4] QualityOfService,
                timeAndTimeZone             [5] TimeAndTimeZone         OPTIONAL
                },
        detachSpecificInformation       [2] SEQUENCE {
                inititatingEntity           [0] InitiatingEntity
                },
        disconnectSpecificInformation   [3] SEQUENCE {
                inititatingEntity           [0] InitiatingEntity
                },
        pDPContextEstablishmentSpecificInformation
                                        [4] SEQUENCE {
                accessPointName             [0] AccessPointName {bound},
                pDPType                     [1] PDPType                 OPTIONAL,
                qualityOfService            [2] QualityOfService,
                routingAreaIdentity         [3] RAIdentity              OPTIONAL,
                timeAndTimeZone             [4] TimeAndTimeZone         OPTIONAL,
                pDPInitiationType           [5] PDPInitiationType       OPTIONAL
                },
        pDPContextEstablishmentAcknowledgementSpecificInformation
                                        [5] SEQUENCE {
                accessPointName             [0] AccessPointName {bound} OPTIONAL,
                chargingID                  [1] GPRSChargingID,
                pDPType                     [2] PDPType                 OPTIONAL,
                qualityOfService            [3] QualityOfService,
                routingAreaIdentity         [4] RAIdentity              OPTIONAL,
                timeAndTimeZone             [5] TimeAndTimeZone         OPTIONAL
                }
        }
--  For the encoding of NewRoutingAreaIdentity refer to 3G TS 29.060 [43]


PDPinitiationType                       ::= ENUMERATED  {
        MSInitiated                         (0),
        NetworkInitiated                    (1)
        }
```

****** NEXT MODIFIED SECTION ******

8 GPRS Control

8.1 gsmSCF/gprsSSF operations and arguments

.. unmodified text ..

```
InitialDPGPRSArg {PARAMETERS-BOUND : bound}::= SEQUENCE {
        sGSN-Address                    [0] ISDN-AddressString,
        serviceKey                      [1] ServiceKey,
        gPRSEventType                   [2] GPRSEventType,
        mSISDN                          [3] ISDN-AddressString,
        iMSI                            [4] IMSI,
        timeAndTimeZone                 [5] TimeAndTimezone {bound},
        gPRSMSClass                     [6] GPRSMSClass                     OPTIONAL,
        pDPType                         [7] PDPType                         OPTIONAL,
        qualityOfService                [8] QualityOfService                OPTIONAL,
        accessPointName                 [9] AccessPointName{bound}          OPTIONAL,
        routeingAreaIdentity           [10] RAIdentity                      OPTIONAL,
        chargingID                     [11] GPRSChargingID                  OPTIONAL,
        sGSNCapabilities               [12] SGSNCapabilities                OPTIONAL,
        locationInformationGPRS        [13] LocationInformationGPRS         OPTIONAL,
        pDPInitiationType              [14] PDPInitiationType               OPTIONAL,
        extensions                     [154] SEQUENCE SIZE(1..bound.&numOfExtensions)  OF
                                                 ExtensionField {bound}      OPTIONAL,
        ...
        }
```

****** NEXT MODIFIED SECTION ******

11.25 EventReportGPRS procedure

11.25.1 General description

This operation is used to notify the gsmSCF of a GPRS session or PDP context event previously requested by the gsmSCF in a RequestReportGPRSEvent operation. The monitoring of more than one event can be requested with a RequestReportGPRSEvent operation, but each of these requested events is reported in a separate EventReportGPRS operation.

11.25.1.1 Parameters

- gPRSEventType:
  This parameter specifies the type of event that is reported.

- gPRSEventSpecificInformation:
  This parameter indicates the GPRS session or PDP context related information specific to the event.

  For Change of Position it shall contain the "newRoutingAreaIdentity", if available.

  For Detach and Disconnect it shall contain the "initiatingEntity".

  For PDP context establishment it shall contain the "accessPointName", the “pDPInitiationType” and the Quality of Service.
  The Quality of Service shall contain the Requested QoS and the Subscribed QoS.

  For PDP context establishment acknowledge it shall contain the "chargingID" and the Quality of Service.
  The Quality of Service shall contain the Requested QoS, the Subscribed QoS and the Negotiated QoS.

  All optional gPRSEventSpecificInformation parameters shall be sent according to 3G TS 22.078 annex "GPRS Information provided to the CSE".

- miscGPRSInfo:
  This parameter contains DP related information.

  - messageType:
    This parameter indicates whether the message is a request, i.e. resulting from a RequestReportGPRSEvent with "monitorMode" = "interrupted", or a notification, i.e. resulting from a RequestReportGPRSEvent with "monitorMode" = "notifyAndContinue".

- pDPID:
  This parameter, if present, identifies the PDP Context, within the Session dialogue, for which the event is reported.

****** NEXT MODIFIED SECTION ******

11.31 InitialDPGPRS procedure

11.31.1 General description

This operation is used by the gprsSSF after detection of a TDP-R in the GPRS session or PDP context state machine, to request the gsmSCF for instructions to complete the GPRS session or PDP context.

For a GPRS Session, the 'Attach' and 'Change of Position Session' TDP's may result in the InitialDPGPRS Procedure.

For a PDP Context, the 'PDP Context Establishment', the 'PDP Context Establishment Acknowledgement' and the 'Change of Position Context' TDP's may result in the InitialDPGPRS Procedure.

If a PDP Context related TDP is met, and there is at that moment a GPRS dialogue for the GPRS Session, then the gprsSSF shall not initiate the InitialDPGPRS Procedure for that PDP Context.

If the 'PDP Context Establishment Acknowledgement' event occurs and this event is armed as a TDP, and there is at that moment a GPRS dialogue for the PDP Context, then the gprsSSF shall not initiate a new InitialDPGPRS Procedure for that PDP Context.

11.31.1.1 Parameters

- serviceKey:
  This parameter indicates to the gsmSCF the requested IN service. It is used to address the required application/SLP within the gsmSCF (not for SCP addressing).

- gPRSEventType:
  This parameter indicates the armed GPRS Attach/Detach SM or PDP Context SM DP event, resulting in the InitialDPGPRS operation.

- mSISDN:
  MSISDN of the mobile subscriber for which the CAMEL service is invoked. For encoding see 3G TS 29.002 [13].

- iMSI:
  IMSI of the mobile subscriber for which the CAMEL service is invoked. For encoding see 3G TS 29.002 [13].

- timeAndTimezone:
  This parameter contains the time that the gprsSSF was triggered, and the time zone that the invoking gprsSSF resides in.

- gPRSMSClass:
  This parameter contains the MS Station capabilites of the mobile subscriber for which the CAMEL service is invoked.

  - MSNetworkCapabilities:
    This parameter contains the Network Capabilities of the GPRS session.

  - MSRadioAccessCapabilities:
    This parameter contains the Radio Access Capabilities of the MS.

- pDPType:
  This parameter identifies the PDP type and the actual PDP address.

- pDPTypeOrganization:
  The pDPTypeOrganisation defines the organization that is responisble for the pDPTypeNumber field and the PDP Address format, e.g. ETSI or an IETF type of address. For encoding see 3G TS 29.060 [43].

- pDPTypeNumber:
  The pDPTypeNumber defines the end user protocol to be used between the external packet data network and the MS related to the pDPTypeOrganization. For encoding see 3G TS 29.060 [43].

- pDPAddress:
  This parameter is the address of the PDP context of the MS for which the CAMEL service is invoked for, that identifies the MS from the externa packet data network. For encoding see 3G TS 29.060 [43].

- qualityOfService:

  This parameter contains the Quality of Service.
  If the InitialDPGPRS operation is sent as a result of the 'PDP Context Establishment' TDP, then the Quality of Service parameter shall contain the Requested QoS and the Subscribed QoS.
  If the InitialDPGPRS operation is sent as a result of the 'PDP Context Establishment Ackonwledgement' TDP, then the Quality of Service parameter shall contain the Requested QoS, the Subscribed QoS and the Negotiated QoS.

- accessPointName:
  This parameter contains the requested address that the MS for which the CAMEL service is invoked for wants to connect to. For encoding see 3G TS 29.060 [43].

- routeingAreaIdentity:
  This parameter contains the location information of the MS for which the CAMEL service is invoked from. For encoding see 3G TS 29.060 [43].

- chargingID:
  This parameter contains the charging ID that uniquely identifies the PDP context for the MS for which the CAMEL service is invoked from. For encoding see 3G TS 32.015.

- sGSNcapabilities:
  This parameter specifies the capabilities which the SGSN node can provide for the CAMEL service control.

- locationInformationInSGSN:
  This parameter indicates the location of the sending MS.

- pDPInitiationType:

  This parameter indicates whether a PDP context was established as a result of a network-initiated request or as a result of a subscriber request.

****** END OF DOCUMENT ******