3GPP TSG CN Plenary Meeting #14 Japan, Kyoto, 12th – 14th December 2001

Source:TSG CN WG2Title:CR on R99 Work Item CAMEL3, Pack 6Agenda item:7.2Document for:APPROVAL

Introduction:

This document contains 10 CRs on R99 WI CAMEL3 (5 CRs for R99 and the 5 mirror CRs for Rel-4). These CRs have been agreed by TSG CN WG2 and are forwarded to TSG CN Plenary meeting #14 for approval.

Spec	CR	Rev	Doc-2nd-Level	Phase	Subject	Cat	Ver_C
23.078	345		N2-010871	R99	Correction to Procedure "Handle_AC" (missing check box exit)	F	3.10.0
23.078	365		N2-010998	Rel-4	Correction to Procedure "Handle_AC" (missing check box exit)	A	4.2.0
23.078	346	1	N2-010999	R99	Corrections in the Call Information Report/Request operation		3.10.0
23.078	366		N2-011000	Rel-4	Corrections in the Call Information Report/Request operation	A	4.2.0
23.078	347		N2-010895	R99	Tccd shall be stopped in procedure Handle_ACR	F	3.10.0
23.078	367		N2-011009	Rel-4	Tccd shall be stopped in procedure Handle_ACR	A	4.2.0
23.078	348		N2-010896	R99	Correction to ECT Treatment Indicator description	F	3.10.0
23.078	368		N2-011010	Rel-4	Correction to ECT Treatment Indicator description	A	4.2.0
23.078	351		N2-010899	R99	Reporting QoS changes shall not be restricted to "User initiated" QoS changes	F	3.10.0
23.078	364		N2-010990	Rel-4	Reporting QoS changes shall not be restricted to "User initiated" QoS changes	A	4.2.0

	CHANGE REQUEST
ж	23.078 CR 345 # rev # Current version: 3.10.0 #
Proposed change a	ects: # (U)SIM ME/UE Radio Access Network Core Network
Title: ¥	Correction to Procedure "Handle_AC" (missing check box exit)
Source: ೫	Ericsson
Work item code: %	CAMEL3 Date: # dd November 2001
Category: ₩	F(essential correction)Release: % R99se one of the following categories:Use one of the following releases:F (correction)2(GSM Phase 2)A (corresponds to a correction in an earlier release)R96(Release 1996)B (addition of feature),R97(Release 1997)C (functional modification of feature)R98(Release 1998)D (editorial modification)R99(Release 1999)REL-4(Release 4)REL-5(Release 5)
Reason for change:	 Procedure Handle_AC in the gsmSSF is called when the CAP ApplyCharging operation has been received from the gsmSCF. This procedure checks, amongst others, if an Answer event was detected for thi call (check box "Answer received?"). The "No" exit from this check box is missing. The present CR adds this missing "No" exit.
Summary of change	# Add the "No" exit to the check box "Answer received?" in sheet 1 of procedure Handle_AC in the gsmSSF.
Consequences if not approved:	 Incorrect specification. Designers won't know what action the gsmSSF shall perform in the case that the answer was not yet received when the Handle_AC procedure is executed. This may lead to inoperability between equipment from different vendors.
Clauses affected:	¥ 4.5.6.4
Other specs affected:	# Other core specifications # Test specifications 0&M Specifications
Other comments:	æ

CR page 2

*** First Modification ***



Figure 4.69a: Procedure Handle_AC (sheet 1)



	CHANGE REQUEST
[#] 23	.078 CR 347 # rev # Current version: 3.10.0 #
Proposed change affect	ts: # (U)SIM ME/UE Radio Access Network Core Network X
Title: ж Тс	cd shall be stopped in procedure Handle_ACR
Source:	csson
Work item code: ೫ C/	MEL3 Date: 육 15 November 2001
Category: [#] F Use	Release: %R99one of the following categories:Use one of the following releases:F (correction)2A (corresponds to a correction in an earlier release)R96B (addition of feature),R97C (functional modification of feature)R98D (editorial modification)R99REL-4(Release 4)REL-5(Release 5)
Baasan far abanga, 9	When the timer Ten evolves, the gamSSE conde ApplyCharingBeport to the
	 SCP and starts timer Tccd. Tccd monitors the reception of a subsequent ApplyCharging operation. If no subsequent ApplyCharging operation is received within a predefined time, then timer Tccd expires and the gsmSSF will then release the call. If a subsequent ApplyCharging operation is received within a predefined time, then timer Tccd will be stopped. It may occur, however, that while Tccd is running, an event occurs that requires reporting to the SCP: Disconnect or Abandon. In that case, Tccd shall be stopped, since the leg for which Tccd is applicable is no longer existing and it needs to be prevented therefore, that Tccd would still expire, resulting in unintentional, premature call release. Especially if Disconnect is reported as EDP-R, may there be the risk that timer Tccd expires unintentionally. The reporting of Disconnect as EDP-R may be followed by a CAP Connect operation. It shall be prevented in that case that the call would be prematurely released due to Tccd expiry. The present CR proposes, therefore, that timer Tccd be stopped in procedure Handle_ACR. When a Disconnect or Abandon event occurs, Handle_ACR is called and Tccd will be stopped. This prevents unintentional, premature call release. The stopping of timer Tccd in procedure Handle_ACR shall be done before the check box "AC pending = True". Reason is that when Tccd is running, then there is no AC pending at that moment.
Summary of change: #	Stop timer Tccd in procedure Handle_ACR
Consequences if #	Unintentional, premature call release may occur, resulting in inconsistent and

not approved:	undesirable SSF behaviour.
Clauses affected:	# 4.5.6.4 (Process gsmSSF and procedures)
Other specs affected:	% Other core specifications % Test specifications % Ø&M Specifications %
Other comments:	¥

CR page 3

*** First Modification ***







	CHANGE REQUEST
ж	23.078 CR 348 # rev # Current version: 3.10.0 #
Proposed change a	ffects: # (U)SIM ME/UE Radio Access Network Core Network X
Title: ೫	Correction to ECT Treatment Indicator description
Source: ೫	Ericsson
Work item code: ೫	CAMEL3 Date: # dd November 2001
Category: ⊮	F(essential correction)Release: %R99Use one of the following categories: F (correction)Use one of the following releases: 2(GSM Phase 2)A(corresponds to a correction in an earlier release)R96(Release 1996)B(addition of feature), C (functional modification of feature)R97(Release 1997)D(editorial modification)R99(Release 1999)REL-4(Release 4) REL-5(Release 5)
Deesen far shanna	
keason for change.	 For the Initial DP Information flow, it is currently specified that the "ECT Treatment Indicator" information element applies to the "calling subscriber". This is not correct. The ECT Treatment Indicator shall apply to the "CAMEL subscriber". Reason is as follows. The ECT Treatment Indicator may be included in IDP for a Mobile Originated call (MO call) and for a Mobile Terminated call in the VMSC (VT call). The ECT Treatment Indicator can not be transported over ISUP; it is applicable to the call handling in a single exchange only. Therefore, the ECT Treatment Indicator is always applicable to the CAMEL subscriber on whose behalf the IDP is sent to the SCP.
Summary of change	: # Correct the description of ECT Treatment Indicator for Initial DP.
Consequences if not approved:	Incorrect service logic design. The ECT Treatment Indicator would convey incorrect information to the SCP for a VT CAMEL service.
Clauses affected:	육 4.6 (Initial DP)
Other specs affected:	% Other core specifications % Test specifications 0&M Specifications
Other comments:	 For info, Connect (CON) and Continue With Argument (CWA) have been included in the present CR. CON and CWA use the correct description of ECT Treatment Indicator.

*** For Information ***

4.6.2.6 Connect

4.6.2.6.1 Description

This IF is used to request the gsmSSF to perform the call processing actions to route a call to a specific destination. To do so, the gsmSSF may use destination information from the calling party and existing call set-up information depending on the information provided by the gsmSCF.

4.6.2.6.2 Information Elements

... < unmodified text >

...

Service Interaction Indicators Two contains the following information:

Information element name	MO	MF	MT	VT	Description			
Forward Service Interaction Indicator	0	0	0	0	This IE is described in a table below.			
Backward Service Interaction	0	0	0	0	This IE is described in a table below.			
HOLD Treatment Indicator	0	-	-	0	This IE indicates whether the CAMEL subscriber can invoke HOLD for the call.			
CW Treatment Indicator	0	-	-	0	This IE indicates whether CW can be applied for a call to the CAMEL subscriber whilst this call is ongoing.			
ECT Treatment Indicator	0	-	-	0	This IE indicates whether the call leg can become part of an ECT call initiated by the CAMEL subscriber.			
Connected number treatment indicator	0	0	0	0	This IE indicates the treatment of the connected number at the originating side.			
Non-CUG Call	0	0	0	0	This IE indicates that no parameters for CUG should be used for the call (i.e. the call should be a non-CUG call).			
O Optional (Service logic dependent).								

•••

< unmodified text >

•••

4.6.2.9 Continue With Argument

4.6.2.9.1 Description

This information flow requests the gsmSSF to proceed the call processing with modified information at the DP at which it previously suspended call processing to await gsmSCF instructions. The gsmSSF completes DP processing, and continues basic call processing (i.e., proceeds to the next point in call in the BCSM) with the modified call setup information as received from the gsmSCF.

4.6.2.9.2 Information Elements

The following information elements are required:

```
...
< unmodified text >
```

```
•••
```

Service Interaction Indicators Two contains the following information:

Information element name	MO	MF	MT	VT	Description
Forward Service Interaction Indicator	0	0	0	0	See the Information Flow table for the Service Interaction Indicators Two IE in the Connect operation for an explanation of this parameter.
Backward Service Interaction Indicator	0	0	0	0	See the Information Flow table for the Service Interaction Indicators Two IE in the Connect operation for an explanation of this parameter.
HOLD Treatment Indicator	0	-	-	0	This IE indicates whether the CAMEL subscriber can invoke HOLD for the call.
CW Treatment Indicator	0	-	-	0	This IE indicates whether CW can be applied for a call to the CAMEL subscriber whilst this call is ongoing.
ECT Treatment Indicator	0	-	-	0	This IE indicates whether the call leg can become part of an ECT call initiated by the CAMEL subscriber.
Connected number treatment indicator	0	0	0	0	This IE indicates the treatment of the connected number at the originating side.
Non-CUG Call	0	0	-	-	This IE indicates that no parameters for CUG should be used for the call (i.e. the call should be a non-CUG call).
O Optional (Service logic dependent). - Not applicable.					

< unmodified text >

•••

*** First Modification ***

4.6.1.5 Initial DP

4.6.1.5.1 Description

This IF is generated by the gsmSSF when a trigger is detected at a DP in the BCSM, to request instructions from the gsmSCF.

4.6.1.5.2 Information Elements

The following information elements are required:

Information element name	MO	MF	MT	VT	Description
Additional Calling Party	С	С	С	С	The calling party number provided by the access signalling
Number					system of the calling user or received from the gsmSCF
					due to the previous CAMEL processing.
Bearer Capability	M	C	C	C	This IE indicates the type of the bearer capability
Called Party Number	C	М	М	М	This IF contains the number used to identify the called
Called Farty Number	Ŭ	101	101		party in the forward direction.
					For the MO and MF calls this parameter is used in the case
					number used to route the call) and in the case of TDP Busy
					and TDP No Reply (this is the MSISDN when the
					destination number used for the call is a MSRN, or in the
					case of unsuccessful establishment received from the HLR
					via MAP interface, otherwise it is the number used to route
					For the VT calls when there is no forwarding pending this is
					the MSISDN received in the Provide Roaming Number; if
					the MSISDN is not available, the basic MSISDN is used.
					For the MT and VT call case when there is call forwarding
					forwarded to or deflected to number
Called Party BCD Number	С	-	-	-	This IE contains the number used to identify the called
, ,					party in the forward direction. It is used for MO call in all
					cases except in the case of TDP Route_Select_Failure.
					For the TDP Collected_Information, the number contained
					access network. It may e.g. include service selection
					information, such as * and # digits, or carrier selection
					information dialled by the subscriber.
					For the TDP Analysed_Information, the number contained
					network access or received from a gsmSCF in a
					CONNECT operation, service selection information, such
					as * and # digits may be present (see clause 4.2.1.2.2),
					carrier selection information dialled by the subscriber is not
Calling Party Number	М	С	С	С	This IE carries the calling party number to identify the
					calling party or the origin of the call.
Calling Party Category	М	С	С	С	Indicates the type of calling party (e.g., operator, pay
CallGap Encountered	С	С	С	С	This parameter indicates the type of gapping the related
	-	-	-	-	call have been subjected to.
					This parameter shall be present only if a call gapping
Coll Poforonoo Numbor	N.4	N.4	N.4	N.4	context is applicable to the initialDP operation.
	IVI	IVI	IVI	IVI	network optional gsmSCF call record. It has to be coupled
					with the identity of the MSC which allocated it in order to
					define unambiguously the identity of the call.
					For MO calls, the call reference number is set by the
					For MT calls, the call reference number is set by the GMSC
					and included in the RCF call record in the GMSC and in the
					MT call record in the terminating MSC.
					For VI calls, the call reference number is set by the GMSC
					MT call record in the terminating MSC
					For CF calls, the call reference number is set by the GMSC
					and included in the CF record in the forwarding MSC.
Cause	С	С	С	С	This IE indicates the cause specific to the armed BCSM DP
					and DP T. Busy. The cause may be used by the SCF to
					decide about the further handling of the call.

Information element name	MO	MF	MT	VT	Description
Event Type BCSM	М	М	М	М	This IE indicates the armed BCSM DP event, resulting in the Initial DP IF.
Ext-Basic Service Code	С	С	С	С	This IE indicates the type of basic service i.e., teleservice or bearer service.
High Layer Compatibility	С	С	С	С	This IE indicates the type of the high layer compatibility, which will be used to determine the ISDN-teleservice of a connected ISDN terminal.
IMSI	Μ	Μ	М	М	This IE identifies the mobile subscriber.
IP SSP Capabilities	С	С	С	С	This IE indicates which SRF resources are supported within the gsmSSF and are available. If this IE is absent, this indicates that no gsmSRF is attached and available.
Location Information	Μ	-	С	М	This IE is described in the next table.
Location Number	М	С	С	С	For mobile originated calls this IE represents the location of the calling party. For all other call scenarios this IE contains the location number received in incoming ISUP signalling.
MSC Address	М	М	М	М	For MO calls, the MSC Address carries the international E.164 address of the serving VMSC. For MT calls, the MSC Address carries the international E.164 address of the GMSC. For VT calls, the MSC Address carries the international E.164 address of the serving VMSC. For CF calls, the MSC Address carries the international E.164 address of the forwarding MSC.
GMSC Address	-	М	-	М	For CF calls, the GMSC Address carries the international E.164 address of the GMSC. For VT calls, the GMSC Address carries the international E.164 address of the GMSC.
Carrier	С	C	С	С	The content of this IE is described in the next table. The IE may be sent when the VPLMN and the HPLMN of the subscriber are both North American. For MO calls, this IE shall contain any carrier that was dialled by the calling subscriber. If no carrier was dialled, the IE shall contain the calling subscriber's subscribed carrier. For MT and VT calls, the IE shall contain the carrier subscribed to by the called subscriber. For CF calls, the IE shall contain the carrier subscribed to by the forwarding subscriber.
Original Called Party ID	С	С	С	С	This IE carries the dialled digits if the call has met call forwarding on the route to the gsmSSF. This IE shall also be sent if it was received from the gsmSCF due to the previous CAMEL processing.
Redirecting Party ID	С	С	С	С	This IE indicates the directory number the call was redirected from. This IE shall also be sent if it was received from the gsmSCF due to the previous CAMEL processing.
Redirection Information	С	С	С	С	This IE contains forwarding related information, such as redirection counter. This IE shall also be sent if it was received from the gsmSCF due to the previous CAMEL processing.
Service Key	М	М	М	М	This IE indicates to the gsmSCF the requested CAMEL Service. It is used to address the required application/SLP within the gsmSCF.
Subscriber State	- 	- 	C	C	 This IE indicates the status of the MS. The states are: CAMELBusy: The MS is engaged on a transaction for a mobile originating or terminated circuit-switched call. NetworkDeterminedNotReachable: The network can determine from its internal data that the MS is not reachable. AssumedIdle: The state of the MS is neither "CAMELBusy" nor "NetworkDeterminedNotReachable". Not provided from VLR.
	111	171	101	101	and the time zone the gsmSSF resides in.

Information element name	MO	MF	MT	VT	Description				
GSM Forwarding Pending	-	-	С	С	This parameter indicates that a forwarded-to-number was received and the call will be forwarded due to GSM supplementary service call forwarding in the GMSC/VMSC. This parameter is present in the following cases: - When the FTN is received from the HLR prior to triggering in the Terminating_Attempt_Authorised DP. - When a conditional call forwarding or call deflection is invoked in the GMSC/MSC, and T_Busy or T_No_answer is reported as a TDP.				
Service Interaction Indicators Two	С	С	С	С	This IE is sent if it is received in the ISUP message or due to previous CAMEL processing. The IE is described in a table below.				
CUG Index	С	-	-	-	See 3GPP TS 23.085 [9] for details of this IE.				
CUG Interlock Code	C	С	С	С	See 3GPP TS 23.085 [9] for details of this IE. The latest available data shall be used, i.e., if the CUG data which had been obtained in the ISUP IAM or from the VLR has been modified by the previous Connect or Continue With Argument IF, this modified data shall be used.				
Outgoing Access Indicator	С	С	С	С	See 3GPP TS 23.085 [9] for details of this IE. In the MO case this IE is received from the VLR.				
M Mandatory (The IE sh C Conditional (The IE sh - Not applicable.	A Mandatory (The IE shall always be sent). Conditional (The IE shall be sent, if available). Not applicable								

Location Information is defined in 3GPP TS 23.018 [3]. The following differences apply:

Information element name	MO	MF	MT	VT	Description				
Location Number	-	-	С	С	See 3GPP TS 23.018 [3].				
Service area ID	C2	-	C2	C2	See 3GPP TS 23.018 [3].				
Cell ID	C2	-	C2	C2	See 3GPP TS 23.018 [3].				
Geographical information	С	-	С	С	See 3GPP TS 23.018 [3].				
Geodetic information	С	-	С	С	See 3GPP TS 23.018 [3].				
VLR number	М	-	С	М	See 3GPP TS 23.018 [3].				
Age Of location information	М	-	С	С	See 3GPP TS 23.018 [3].				
Current Location Retrieved	-	-	-	-	Not applicable				
Location area ID	C2	-	C2	C2	See 3GPP TS 23.003 [37].				
Selected LSA Identity	C1	-	C1	C1	This IE indicates the LSA identity associated with the current position of the MS. Shall be present if the LSA ID in the subscriber data matches the LSA ID of the current cell. In the case of multiple matches the LSA ID with the highest priority shall be sent. See 3GPP TS 23.073 [23].				
M Mandatory (The IE shall always be sent).									
C Conditional (The IE shall be sent, if available. Further conditions are in the description column.).									
C1 Conditional (The IE shall be sent, if available and SoLSA is supported).									
C2 Conditional (One and	l only on	e of the	three co	ondition	al IEs shall be sent).				
 Not applicable. 	Not applicable.								

Carrier contains the following information:

Information element name	MO	MF	MT	VT	Description			
Carrier Identification Code	М	М	М	М	This IE uniquely identifies a North American long distance carrier.			
Carrier Selection Information	М	М	М	М	This IE indicates the way the carrier was selected e.g.: – dialled – subscribed			
M Mandatory (The IE shall always be sent).								

Service Interaction Indicators Two contains the following information:

Information element name	MO	MF	MT	VT	Description
Forward Service Interaction	С	С	С	С	This IE is described in a table below.
Indicator					
HOLD Treatment Indicator	С	-	-	С	This IE indicates whether the CAMEL subscriber can
					invoke HOLD for the call.
CW Treatment Indicator	С	-	-	С	This IE indicates whether CW can be applied for a call to
					the CAMEL subscriber whilst this call is ongoing.
ECT Treatment Indicator	С	-	-	С	This IE indicates whether the call leg can become part of
					an ECT call initiated by the callingCAMEL subscriber.
C Conditional (The IE s	hall be	sent, if	availat	ole).	
- Not applicable.					

Forward Service Interaction Indicator contains the following information:

Information element name	MO	MF	MT	VT	Description
Conference Treatment Indicator	С	С	С	С	This IE indicates whether the call leg can become part of a
					MPTY call initiated by the called subscriber.
Call Diversion Treatment Indicator	С	С	С	С	This IE indicates whether the call can be forwarded using the Call Forwarding or Call Deflection Supplementary Services.
C Conditional (The IE sh	all be s	sent, if a	availabl	le).	

*** Next Modification ***

*** End of Document ***

CHANGE REQUEST										
ж;	<mark>23.078</mark> CR <mark>351</mark> ^ж rev ^ж ⊮	Current version: <u>3.10.0</u> ¥								
Proposed change af	i fects: ೫ (U)SIM ME/UE Radio Ac	cess Network Core Network X								
Title: ೫	Reporting QoS changes shall not be restricted to	"User initiated" QoS changes								
Source: ೫	Ericsson									
Work item code: #	CAMEL3	Date: # 15 November 2001								
Category: #	F Jse <u>one</u> 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)	Release: %R99Use one of the following releases: 2(GSM Phase 2)2(GSM Phase 2)9)R96(Release 1996)R97(Release 1997)R98(Release 1998)R99(Release 1999)REL-4(Release 4)REL-5(Release 5)								
Reason for change:	* When for an active PDP Context the Quality	of Service (OoS) changes and the								
Reason for change.	 When for an active PDP Context the Quality change of QoS is regarded as a chargeable shall send a notification to the gsmSCF, provpreviously requested such notification. TS 23.078, section 6.6.1.2, specifies that onl changes shall be reported. However, this restriction is in contradiction w SGSN/gprsSSF, as specified in the process 6.5.3.9, "SDL diagrams for process GPRS_S change procedures in the SGSN (TS 23.060 Procedures"). TS 23.078: There is no indication in process 	bi Service (QOS) changes, and the change of QoS, then the gprsSSF vided that the gsmSCF had by "User initiated" chargeable QoS with the behaviour of the gprsSSF (TS 23.078, section SSF and procedures") and the QoS by section 9.2.3, "Modification								
	Chargeable QoS changes shall chargeable QoS changes. TS 23.060: The CAMEL procedure "CAME called whenever the QoS change change in QoS.	be limited to user-initiated L_GPRS_Change_Of_QoS" is ges, irrespective of the initiator of the								
	The result of the current TS 23.060 and TS 2 changes are reported to the SCP, irrespectiv QoS. This is in contradiction with section sec	23.078, is that all chargeable QoS ve of the initiator of the change in ction 6.6.1.2 in 23.078.								
	This inconsistency in the specification is mis	leading and shall be resolved.								
	TS 23.078, section 6.6.1.2, shall not specify changes shall be restricted to user-initiated of 23.060, TS 23.078 shall specify that the report shall be applicable to all changes in QoS.	that the reporting of chargeable QoS changes in QoS. In line with TS prting of chargeable QoS changes								

	Moreover, it is important for the SCP to be notified about QoS changes, irrespective of the cause of such change in QoS. Not being notified about QoS changes initiated by other entities than the user, deprives the SCP from information that may be needed for charging the subscriber correctly.										
Summary of change: ೫	Specify in section 6.6.1.2 that the reporting of chargeable changes in QoS shall be applicable to all chargeable changes in QoS, irrespective of the initiator of the change.										
	0										
Consequences if % not approved:	1.	Inconsistency between equipment from different vendors: an SCP from one vendor may expect to receive notifications for all chargeable changes in QoS, whilst the SGSN from another vendors reports only the user-initiated chargeable changes in QoS.									
	2.	Having to report user-initiated chargeable QoS changes only, leads to additional complexity in the interface between SGSN and gprsSSF.									
	3. If the SCP is not informed about chareable QoS changes, ini other entities than the user, then the user may be incorrectly										
Clauses affected: #	6.6.1.2										
Other specs % affected:	Other Test s O&M	core specifications # specifications Specifications									

Other comments:

ж

*** First Modification ***

6.6.1.2 Apply Charging Report GPRS

6.6.1.2.1 Description

This IF is used by the gprsSSF to report to the gsmSCF the information requested in the Apply Charging GPRS IF. In addition, this IF is used to notify the gsmSCF of user initiated changes in QoS. Note that there are several possible QoS profiles defined by the combinations of the different QoS attributes as defined in 3GPP TS 23.060 [11]. A PLMN may only support and charge on a limited subset of those QoS. It is recommended that changes in QoS are only reported in Apply Charging Report GPRS for those QoS profiles.

6.6.1.2.2 Information Elements

The following information elements are required:

Information element name	Required	Description
GPRS Reference Number	С	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 3GPP TS 29.078 [5] for the usage of this element.
Charging Result	М	This IE contains the charging information for the PDP provided by the gsmSSF. It is a choice between elapsed time and data volume.
Quality of Service	С	This IE is described in the table below.
Active	М	This IE indicates if the GPRS session or PDP context is still established, or if it has been detached or deactivated.
PDP ID	С	This IE identifies the PDP context which the Apply Charging Report is applicable for. If not present the dialogue corresponds to the GPRS session or to one single PDP context.
Charging Roll Over	С	This IE indicates which parameter(s) of the <i>Charging Result</i> have overflowed. Refer to 3GPP TS 29.078 [5] for the usage of this element. NOTE: It is possible that early implementations of the gprsSSF do not support this information element.
M Mandatory (The IE shal	always be s	sent).
C Conditional (The IE sha	ll be sent, if a	available).

Quality of Service contains the following information element:

Information element name	Required	Description			
Negotiated QoS	С	This IE identifies the QoS which was negotiated between the user, the SGSN and the GGSN, as a result of a 'Modify PDP Conext' request. This IE shall be included only if sending of the Apply Charging Report was triggered by a change in Quality of Service.			
C Conditional (The IE shall be sent, if available).					

*** End of Document ***

CHANGE REQUEST										
ж	23.078 CR 364 # rev # Current version: 4.2.0 #									
Proposed change af	ects: # (U)SIM ME/UE Radio Access Network Core Network X									
Title: ¥	Reporting QoS changes shall not be restricted to "User initiated" QoS changes									
Source: ೫	Ericsson									
Work item code: 🕷 🚽	CAMEL3 Date: # 27 November 2001									
Category: ະ	Release: % Rel-4 se one of the following categories: Use one of the following releases: F (correction) 2 (GSM Phase 2) A (corresponds to a correction in an earlier release) R96 (Release 1996) B (addition of feature), R97 (Release 1997) C (functional modification of feature) R98 (Release 1998) D (editorial modification) R99 (Release 1999) REL-4 (Release 4) REL-4 (Release 5)									
Reason for change:	 When for an active PDP Context the Quality of Service (QoS) changes, and the change of QoS is regarded as a chargeable change of QoS, then the gprsSSF shall send a notification to the gsmSCF, provided that the gsmSCF had previously requested such notification. TS 23.078, section 6.6.1.2, specifies that only "User initiated" chargeable QoS changes shall be reported. However, this restriction is in contradiction with the behaviour of the SGSN/gprsSSF, as specified in the process gprsSSF (TS 23.078, section 6.5.3.9, "SDL diagrams for process GPRS_SSF and procedures") and the QoS 									
	 change procedures in the SGSN (TS 23.060, section 9.2.3, "Modification Procedures"). TS 23.078: There is no indication in process gprsSSF that the reporting of the chargeable QoS changes shall be limited to user-initiated chargeable QoS changes. TS 23.060: The CAMEL procedure "CAMEL_GPRS_Change_Of_QoS" is called whenever the QoS changes, irrespective of the initiator of the change in QoS. 									
	The result of the current TS 23.060 and TS 23.078, is that all chargeable QoS changes are reported to the SCP, irrespective of the initiator of the change in QoS. This is in contradiction with section section 6.6.1.2 in 23.078.									
	This inconsistency in the specification is misleading and shall be resolved. TS 23.078, section 6.6.1.2, shall not specify that the reporting of chargeable QoS changes shall be restricted to user-initiated changes in QoS. In line with TS 23.060, TS 23.078 shall specify that the reporting of chargeable QoS changes shall be applicable to all changes in QoS.									

	Moreover, it is important for the SCP to be notified about QoS changes, irrespective of the cause of such change in QoS. Not being notified about QoS changes initiated by other entities than the user, deprives the SCP from information that may be needed for charging the subscriber correctly.										
Summary of change: #	Specify in section 6.6.1.2 that the reporting of chargeable changes in QoS shall be applicable to all chargeable changes in QoS, irrespective of the initiator of the change.										
	Ŭ										
Consequences if % not approved:	1.	Inconsistency between equipment from different vendors: an SCP from one vendor may expect to receive notifications for all chargeable changes in QoS, whilst the SGSN from another vendors reports only the user-initiated chargeable changes in QoS.									
	2.	Having to report user-initiated chargeable QoS changes only, leads to additional complexity in the interface between SGSN and gprsSSF.									
	3. If the SCP is not informed about chareable QoS changes, in other entities than the user, then the user may be incorrectly										
Clauses affected: #	6.6.1.2										
Other specs % affected:	Other of Test sp	core specifications # Decifications Specifications									

Other comments:

ж

*** First Modification ***

6.6.1.2 Apply Charging Report GPRS

6.6.1.2.1 Description

This IF is used by the gprsSSF to report to the gsmSCF the information requested in the Apply Charging GPRS IF. In addition, this IF is used to notify the gsmSCF of user initiated changes in QoS. Note that there are several possible QoS profiles defined by the combinations of the different QoS attributes as defined in 3GPP TS 23.060 [11]. A PLMN may only support and charge on a limited subset of those QoS. It is recommended that changes in QoS are only reported in Apply Charging Report GPRS for those QoS profiles.

6.6.1.2.2 Information Elements

The following information elements are required:

Information element name	Required	Description
GPRS Reference Number	С	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 3GPP TS 29.078 [5] for the usage of this element.
Charging Result	М	This IE contains the charging information for the PDP provided by the gsmSSF. It is a choice between elapsed time and data volume.
Quality of Service	С	This IE is described in the table below.
Active	М	This IE indicates if the GPRS session or PDP context is still established, or if it has been detached or deactivated.
PDP ID	С	This IE identifies the PDP context which the Apply Charging Report is applicable for. If not present the dialogue corresponds to the GPRS session or to one single PDP context.
Charging Roll Over	С	This IE indicates which parameter(s) of the <i>Charging Result</i> have overflowed. Refer to 3GPP TS 29.078 [5] for the usage of this element. NOTE: It is possible that early implementations of the gprsSSF do not support this information element.
M Mandatory (The IE shal	always be s	sent).
C Conditional (The IE sha	ll be sent, if a	available).

Quality of Service contains the following information element:

Information element name	Required	Description
Negotiated QoS	С	This IE identifies the QoS which was negotiated between the user, the SGSN and the GGSN, as a result of a 'Modify PDP Conext' request. This IE shall be included only if sending of the Apply Charging Report was triggered by a change in Quality of Service.
C Conditional (The IE shall	be sent, if a	vailable).

*** End of Document ***

CHANGE REQUEST												
æ	23.	078	CR	365	ж	rev	ж	Curre	nt vers	ion:	4.2.0	ж
	20.											
Proposed change a	ffect	s: #	(U)SI	и і	ME/UE		Radio A	Access N	letworl	k	Core Ne	etwork X
Title: #	Cor	rectior	n to Proc	edure "Ha	andle_/	<mark>∖C" (n</mark>	nissing	check b	ox exit)		
Source: ೫	Eric	sson					-					
Work item code: ೫	CAN	MEL3						D	ate: ೫	27	Novembe	er 2001
Category: #	A Use <u>c</u> I I I I	one of i = (corr A (corr B (adc C (fun C (edit	the followi rection) responds lition of fe ctional mod torial mod	ng catego to a correc ature), idification ification)	ories: ction in a of featur	an earl e)	ier relea	Relea Use 2 se) F F F F F	ase: % one of (96) (97) (97) (98) (99) (29) (20) (20) (20) (20) (20) (20) (20) (20	Relative Releation (Releation) (Releation) (Releation) (Releation)	-4 llowing rela 1 Phase 2) ase 1996) ase 1998) ase 1999) ase 4) ase 5)	eases:
Reason for change:	ж	Proc opera This call (The The	edure Ha ation has procedur check bo "No" exit present C	ndle_AC been rec e checks x "Answe from this CR adds t	in the g ceived f s, amon er receiv check this mis	gsmS rom tl gst ot ved?" box is sing "	SF is ca he gsm hers, if a). missing No" exit	alled who SCF. an Answ g.	en the ver eve	CAP	ApplyCha	arging ed for this
Summary of change	e: #	Add Hand	the "No" dle_AC in	exit to the the gsm	e check ISSF.	box "	Answer	receive	ed?" in	sheet	1 of proc	cedure
Consequences if not approved:	¥	Incor perfo proce	rect spec orm in the edure is e may leac	cification. case that executed.	Design at the ar erability	iers w nswer betwe	on't kno was no een equ	ow what ot yet rec ipment f	action ceived	the g when	smSSF s the Hand t vendors	hall dle_AC
Clauses affected:	ж	4.5.6	.4									
Other specs affected:	ж	01 Te	ther core est specif &M Spec	specifica ications ifications	ations	ж						
Other comments:	ж											

CR page 2

*** First Modification ***



Figure 4.69a: Procedure Handle_AC (sheet 1)



3GPP TSG CN WG2 Meeting #21

N2-010999

	<u>- 30 140</u>						
	(CHANGE	REQ	UEST			CR-Form-v5
^ж 2	2 <mark>3.078</mark> CR	346	жrev	1 [#]	Current vers	^{ion:} 3.10.0	ж
For <u>HELP</u> on usin	ng this form, see	bottom of this	page or l	ook at the	pop-up text	over the X syr	nbols.
Proposed change aff	ects:	SIM ME	ÚE	Radio Aco	cess Network	Core Ne	etwork
Title: ೫ (Correction in the	e Call Informati	on Report	Request	operation		
Source: ೫ <mark>-</mark> F	France Telecom	I					
Work item code: 🕱 (CAMEL 3				<i>Date:</i>	25/11/2001	
Category: # F Us De be Reason for change: Summary of change:	 F Agreed by c se <u>one</u> of the follo <i>F</i> (correction) A (correspondentiation of <i>C</i> (functional <i>D</i> (editorial magnetic e found in 3GPP) % The specific Call Information shall always "When absec Continue Withow 	onsensus owing categories ds to a correction feature), modification of fe odification) ons of the above <u>TR 21.900</u> . eter leg ID has ation 23.078 in tion Report ope be sent). How ent, it indicates th Argument."	: n in an earl eature) categories to be clar dicates fo erations th ever, it is the 'outgo	ier release, can ified r the Call nat the par written (§ ping' leg c	Release: # Use <u>one</u> of 2) R96 R97 R98 R99 REL-4 REL-5	R99 the following rela (GSM Phase 2) (Release 1996) (Release 1997) (Release 1998) (Release 1999) (Release 4) (Release 5) Request and fo ID" is mandato § 4.6.2.4.) : Connect, Contin	pases: or the ory (i.e. nue or
Consequences if not approved:	The last sendeleted in st	tence is not co age 2. :y in the Call In	rrect from formation	a function	nal point of v	iew and shall t	ре 2
		0.4					
Clauses affected: Other specs affected:	ж <u>4.6.1.3, 4.6</u> Ж Other cc Test spe O&M Sp	 -2.4 A re specification A recifications A recifications 	ns ¥				

Other comments: भ

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at: <u>http://www.3gpp.org/3G_Specs/CRs.htm</u>. 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 <u>ftp://ftp.3gpp.org/specs/</u> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 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.

**** First Modified Section ****

4.6.1.3. Call Information Report

4.6.1.3.1 Description

This IF is used to send specific call information for a single call to the gsmSCF as requested from the gsmSCF in a previous Call Information Request.

4.6.1.3.2 Information Elements

Information element name	MO	MF	MT	VT	Description	
Requested Information List	Μ	М	М	М	This IE specifies a list of Requested information Values	
					which are requested.	
Leg ID	М	М	М	М	This IE indicates the party in the call for which information shall be collected. When absent, it indicates the 'outgoing' leg created with Connect, Continue or Continue With Argument.	
M Mandatory (The IE shall always be sent).						

****Second Modified Section ****

4.6.2.4. Call Information Request

4.6.2.4.1 Description

This IF is used to request the gsmSSF to record specific information about a single call and report it to the gsmSCF (with a CallInformationReport).

4.6.2.4.2 Information Elements

Information element name	MO	MF	MT	VT	Description	
Requested Information Type	М	М	Μ	М	This IE specifies a list of specific items of information which	
List					are requested.	
Leg ID	М	М	М	М	This IE indicates the party in the call for which information	
					shall be collected. When absent, it indicates the 'outgoing'	
					leg created with Connect, Continue or Continue With	
					Argument.	
M Mandatory (The IE shall always be sent).						

3GPP TSG CN WG2 Meeting #21

N2-011000

Cancun, Mexico	<u>, 26''' - 30''' No</u>	vember 200)1				
		CHANGE		EST			CR-Form-v5
ж	23.078 CR	366	жrev	¥ Cu	rrent versi	^{ion:} 4.2.0	ж
For <u>HELP</u> on us	sing this form, se	e bottom of this	s page or lool	k at the po	p-up text	over the X sy	mbols.
Proposed change a	affects:	SIM ME	/UE Ra	dio Acces	s Network	Core N	etwork
Title: ೫	Correction in th	e Call Informat	ion Report/Re	equest op	eration		
Source: #	France Telecon	ו					
Work item code:	CAMEL 3				Date: ೫	25/11/2001	
Category: भ Reason for change	A Agreed by c Use <u>one</u> of the foll F (correction A (correspon B (addition o C (functional D (editorial n Detailed explanation be found in 3GPP	consensus owing categories) ds to a correction f feature), modification of f modification) ons of the above <u>TR 21.900</u> .	s: n in an earlier eature) categories car to be clarifie	Re L release) n	e lease: ¥ Jse <u>one</u> of t 2 R96 R97 R98 R99 REL-4 REL-5	Rel-4 the following re (GSM Phase 2 (Release 1996) (Release 1997) (Release 1999) (Release 4) (Release 5)	leases:))))
Summary of chang	e: # The specific Call Informa shall always " When abs Continue W The last ser deleted in s	ation 23.078 in tion Report op be sent). How ent, it indicates ith Argument." itence is not co tage 2.	dicates for the erations that ever, it is wri the 'outgoing prrect from a f	ne Call Info the param tten (§ 4.6 g' leg crea functional	prmation F neter "leg I 5.1.3. and ted with C point of vi	Request and f ID" is mandate § 4.6.2.4.) : Connect, Cont iew and shall	or the ory (i.e. inue or be
Consequences if not approved:	# Inconsisten	cy in the Call In	formation Re	equest/Rep	port descr	iption in stage	2
Clauses affected:	₩ <mark>4.6.1.3, 4.</mark> 6	<u>5.2.4</u>					
Other specs affected:	X Other co Test spo O&M Sp	ore specification ecifications pecifications	ns ¥				

Other comments:

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at: <u>http://www.3gpp.org/3G_Specs/CRs.htm</u>. 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 <u>ftp://ftp.3gpp.org/specs/</u> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 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.

**** First Modified Section ****

4.6.1.3. Call Information Report

4.6.1.3.1 Description

This IF is used to send specific call information for a single call to the gsmSCF as requested from the gsmSCF in a previous Call Information Request.

4.6.1.3.2 Information Elements

Information element name	MO	MF	MT	VT	Description	
Requested Information List	Μ	М	М	М	This IE specifies a list of Requested information Values	
					which are requested.	
Leg ID	М	М	М	М	This IE indicates the party in the call for which information shall be collected. When absent, it indicates the 'outgoing' leg created with Connect, Continue or Continue With Argument.	
M Mandatory (The IE shall always be sent).						

****Second Modified Section ****

4.6.2.4. Call Information Request

4.6.2.4.1 Description

This IF is used to request the gsmSSF to record specific information about a single call and report it to the gsmSCF (with a CallInformationReport).

4.6.2.4.2 Information Elements

Information element name	MO	MF	MT	VT	Description	
Requested Information Type	М	М	Μ	М	This IE specifies a list of specific items of information which	
List					are requested.	
Leg ID	М	М	М	М	This IE indicates the party in the call for which information	
					shall be collected. When absent, it indicates the 'outgoing'	
					leg created with Connect, Continue or Continue With	
					Argument.	
M Mandatory (The IE shall always be sent).						

	CHANGE REQUEST
ж	23.078 CR 367 # rev # Current version: 4.2.0 #
Proposed change	affects: # (U)SIM ME/UE Radio Access Network Core Network X
<i>Title:</i> ដ	Tccd shall be stopped in procedure Handle_ACR
Source: अ	Ericsson
Work item code: %	CAMEL3 Date: # 28 November 2001
Category: ₩	A Release: % Rel-4 Use one of the following categories: Use one of the following releases: 2 F (correction) 2 (GSM Phase 2) A (corresponds to a correction in an earlier release) R96 (Release 1996) B (addition of feature), R97 (Release 1997) C (functional modification of feature) R98 (Release 1998) D (editorial modification) R99 (Release 1999) REL-4 (Release 4) REL-4 REL-5 (Release 5) Release 5)
Reason for change	 When the timer Tcp expires, the gsmSSF sends ApplyCharingReport to the SCP and starts timer Tccd. Tccd monitors the reception of a subsequent ApplyCharging operation. If no subsequent ApplyCharging operation is received within a predefined time, then timer Tccd expires and the gsmSSF will then release the call. If a subsequent ApplyCharging operation is received within a predefined time, then timer Tccd will be stopped. It may occur, however, that while Tccd is running, an event occurs that requires reporting to the SCP: Disconnect or Abandon. In that case, Tccd shall be stopped, since the leg for which Tccd is applicable is no longer existing and it needs to be prevented therefore, that Tccd would still expire, resulting in unintentional, premature call release. Especially if Disconnect is reported as EDP-R, may there be the risk that timer Tccd expires unintentionally. The reporting of Disconnect as EDP-R may be followed by a CAP Connect operation. It shall be prevented in that case that the call would be prematurely released due to Tccd expiry. The present CR proposes, therefore, that timer Tccd be stopped in procedure Handle_ACR. When a Disconnect or Abandon event occurs, Handle_ACR is called and Tccd will be stopped. This prevents unintentional, premature call release. The stopping of timer Tccd in procedure Handle_ACR shall be done before the check box "AC pending = True". Reason is that when Tccd is running, then there is no AC pending at that moment.
Summary of chang	e: # Stop timer Tccd in procedure Handle_ACR
Consequences if	# Unintentional, premature call release may occur, resulting in inconsistent and

not approved:	undesirable SSF behaviour.										
Clauses affected:	# 4.5.6.4 (Process gsmSSF and procedures)										
Other specs affected:	% Other core specifications % Test specifications % Ø&M Specifications %										
Other comments:	¥										

CR page 3

*** First Modification ***







CHANGE REQUEST													
ж	23	<mark>.078</mark>	CR	368	Жr	ev	ж	Currer	nt vers	sion:	4.2.) [#]	8
Proposed change a	affec	ts: ೫	(U)SIN	/	ME/UE	R	adio A	ccess N	etwor	k	Core	Netw	ork X
Title: ೫	Co	rrection	to ECT	Treatmer	nt Indica	tor de	scriptio	n					
Source: ೫	Eric	csson											
Work item code: ೫	CA	MEL3						Da	ate: ೫	28	Novem	ber 2	001
Category: Ж	A Use	one of th F (corre A (corre B (addit C (funct D (edito	ne followin oction) esponds t tion of fea tional modi orial modi	ng categoi o a correc ature), dification (fication)	ries: stion in ar of feature	n earlie)	r releas	Relea Use 2 re) R R R R R R	se: # <u>one</u> of 96 97 98 99 EL-4 EL-5	Rel the fo (GSN (Rele (Rele (Rele (Rele (Rele (Rele	-4 llowing 1 1 Phase ase 199 ase 199 ase 199 ase 4) ase 5)	releas 2) 6) 7) 8) 99)	es:
Reason for change	: Ж	For the	e Initial I	DP inforn	nation flo	ow, it i	s curre	ntly spe	cified	that t	ne "EC	Т	
		Treatr This is subsc The E (MO c The E to the There subsc	nent Ind s not cor riber". R CT Trea call) and CT Trea call han fore, the riber on	icator" in rect. The eason is timent Ind for a Mot timent Ind dling in a ECT Tre whose bo	formatio ECT Tr as follow dicator n bile Tern dicator c single e eatment ehalf the	n elen eatme ws. nay be ninate an no exchar Indica e IDP i	nent ap ent India d call in t be tra nge onl tor is a s sent	pplies to cator sh led in ID n the VN nsporte ly. lways a to the S	the "c all app P for ASC (' d over pplica CP.	calling ply to a Mot VT ca r ISUF ble to	subsc the "C/ bile Orig II). 2; it is a the C/	riber" AMEL ginate pplic	ed call able
Summary of chang	е: Ж	Correc	<mark>ct the de</mark>	scription	of ECT	Treat	nent In	dicator	<mark>for Ini</mark>	tial DF	Р.		
Consequences if not approved:	ж	Incorre incorre	ect servi ect inforr	ce logic on the second	design. the SC	The E P for a	CT Tre	atment AMEL se	Indica ervice	tor wo	ould co	nvey	
Clauses affected:	Ħ	4.6 (In	itial DP))									
Other specs affected:	ж	Oth Tes O&	er core st specifi M Speci	specifica cations fications	tions	ж							
Other comments:	ж	For inf includ Treatr	fo, Conn ed in the nent Ind	ect (CON present icator.	N) and C CR. CC	ontinu N and	ie With CWA	Argume use the	ent (C corre	WA) I ct des	nave be cription	en n of E	ст

*** For Information ***

4.6.2.6 Connect

4.6.2.6.1 Description

This IF is used to request the gsmSSF to perform the call processing actions to route a call to a specific destination. To do so, the gsmSSF may use destination information from the calling party and existing call set-up information depending on the information provided by the gsmSCF.

4.6.2.6.2 Information Elements

... < unmodified text >

...

Service Interaction Indicators Two contains the following information:

Information element name	MO	MF	MT	VT	Description
Forward Service Interaction Indicator	0	0	0	0	This IE is described in a table below.
Backward Service Interaction	0	0	0	0	This IE is described in a table below.
HOLD Treatment Indicator	0	-	-	0	This IE indicates whether the CAMEL subscriber can invoke HOLD for the call.
CW Treatment Indicator	0	-	-	0	This IE indicates whether CW can be applied for a call to the CAMEL subscriber whilst this call is ongoing.
ECT Treatment Indicator	0	-	-	0	This IE indicates whether the call leg can become part of an ECT call initiated by the CAMEL subscriber.
Connected number treatment indicator	0	0	0	0	This IE indicates the treatment of the connected number at the originating side.
Non-CUG Call	0	0	0	0	This IE indicates that no parameters for CUG should be used for the call (i.e. the call should be a non-CUG call).
O Optional (Service log	ic depe	ndent).			

•••

< unmodified text >

• • •

4.6.2.9 Continue With Argument

4.6.2.9.1 Description

This information flow requests the gsmSSF to proceed the call processing with modified information at the DP at which it previously suspended call processing to await gsmSCF instructions. The gsmSSF completes DP processing, and continues basic call processing (i.e., proceeds to the next point in call in the BCSM) with the modified call setup information as received from the gsmSCF.

4.6.2.9.2 Information Elements

The following information elements are required:

```
...
< unmodified text >
```

```
•••
```

Service Interaction Indicators Two contains the following information:

Information element name	MO	MF	MT	VT	Description
Forward Service Interaction Indicator	0	0	0	0	See the Information Flow table for the Service Interaction Indicators Two IE in the Connect operation for an explanation of this parameter.
Backward Service Interaction Indicator	0	0	0	0	See the Information Flow table for the Service Interaction Indicators Two IE in the Connect operation for an explanation of this parameter.
HOLD Treatment Indicator	0	-	-	0	This IE indicates whether the CAMEL subscriber can invoke HOLD for the call.
CW Treatment Indicator	0	-	-	0	This IE indicates whether CW can be applied for a call to the CAMEL subscriber whilst this call is ongoing.
ECT Treatment Indicator	0	-	-	0	This IE indicates whether the call leg can become part of an ECT call initiated by the CAMEL subscriber.
Connected number treatment indicator	0	0	0	0	This IE indicates the treatment of the connected number at the originating side.
Non-CUG Call	0	0	-	-	This IE indicates that no parameters for CUG should be used for the call (i.e. the call should be a non-CUG call).
O Optional (Service log - Not applicable.	ic depe	ndent).			

< unmodified text >

•••

*** First Modification ***

4.6.1.5 Initial DP

4.6.1.5.1 Description

This IF is generated by the gsmSSF when a trigger is detected at a DP in the BCSM, to request instructions from the gsmSCF.

4.6.1.5.2 Information Elements

The following information elements are required:

Information element name	MO	MF	MT	VT	Description
Additional Calling Party	С	С	С	С	The calling party number provided by the access signalling
Number					due to the previous CAMEL processing.
Bearer Capability	М	С	С	С	This IE indicates the type of the bearer capability
Colled Party Number	6	N.4	N.4	N.4	connection to the user.
Called Party Number	С	M	Μ	М	This IE contains the number used to identify the called party in the forward direction. For the MO and MF calls this parameter is used in the case of TDP Route_Select_Failure (this is the destination number used to route the call) and in the case of TDP Busy and TDP No Reply (this is the MSISDN when the destination number used for the call is a MSRN, or in the case of unsuccessful establishment received from the HLR via MAP interface, otherwise it is the number used to route the call). For the VT calls when there is no forwarding pending this is the MSISDN received in the Provide Roaming Number; if the MSISDN is not available, the basic MSISDN is used. For the MT and VT call case when there is call forwarding or call deflection pending, this is the MSISDN, i.e. not the
Called Darty DCD Number	0				torwarded-to or deflected-to number.
Called Party BCD Number	C	-	-	-	This IE contains the number used to identify the called party in the forward direction. It is used for MO call in all cases except in the case of TDP Route_Select_Failure. For the TDP Collected_Information, the number contained in this IE shall be identical to the number received over the access network. It may e.g. include service selection information, such as * and # digits, or carrier selection information dialled by the subscriber. For the TDP Analysed_Information, the number contained in this IE shall be the dialled number received over the network access or received from a gsmSCF in a CONNECT operation, service selection information, such as * and # digits may be present (see clause 4.2.1.2.2), carrier selection information dialled by the subscriber is not present.
Calling Party Number	М	С	С	С	This IE carries the calling party number to identify the calling party or the origin of the call.
Calling Party Category	М	С	С	С	Indicates the type of calling party (e.g., operator, pay phone, ordinary subscriber).
CallGap Encountered	С	С	С	С	This parameter indicates the type of gapping the related call have been subjected to. This parameter shall be present only if a call gapping context is applicable to the initialDP operation.
Call Reference Number	Μ	M	Μ	M	This IE may be used by the gsmSCF for inclusion in a network optional gsmSCF call record. It has to be coupled with the identity of the MSC which allocated it in order to define unambiguously the identity of the call. For MO calls, the call reference number is set by the serving VMSC and included in the MO call record. For MT calls, the call reference number is set by the GMSC and included in the RCF call record in the GMSC and in the MT call record in the terminating MSC. For VT calls, the call reference number is set by the GMSC and included in the RCF call record in the GMSC and in the MT call record in the terminating MSC. For VT calls, the call reference number is set by the GMSC and included in the RCF call record in the GMSC and in the MT call record in the terminating MSC. For CF calls, the call reference number is set by the GMSC and included in the CF record in the forwarding MSC.
Cause	С	С	С	С	This IE indicates the cause specific to the armed BCSM DP event. This IE is applicable to DP Route_Select_Failure and DP T_Busy. The cause may be used by the SCF to decide about the further handling of the call.

Information element name	MO	MF	МТ	VT	Description
Event Type BCSM	М	М	М	М	This IE indicates the armed BCSM DP event, resulting in the Initial DP IF.
Ext-Basic Service Code	С	С	С	С	This IE indicates the type of basic service i.e., teleservice or bearer service.
High Layer Compatibility	С	С	С	С	This IE indicates the type of the high layer compatibility, which will be used to determine the ISDN-teleservice of a connected ISDN terminal.
IMSI	Μ	М	М	Μ	This IE identifies the mobile subscriber.
IP SSP Capabilities	С	С	С	С	This IE indicates which SRF resources are supported within the gsmSSF and are available. If this IE is absent, this indicates that no gsmSRF is attached and available.
Location Information	Μ	-	С	Μ	This IE is described in the next table.
Location Number	М	С	С	С	For mobile originated calls this IE represents the location of the calling party. For all other call scenarios this IE contains the location number received in incoming ISUP signalling.
MSC Address	М	Μ	Μ	М	For MO calls, the MSC Address carries the international E.164 address of the serving VMSC. For MT calls, the MSC Address carries the international E.164 address of the GMSC. For VT calls, the MSC Address carries the international E.164 address of the serving VMSC. For CF calls, the MSC Address carries the international E.164 address of the forwarding MSC.
GMSC Address	-	М	-	М	For CF calls, the GMSC Address carries the international E.164 address of the GMSC. For VT calls, the GMSC Address carries the international E.164 address of the GMSC.
Carrier	С	С	С	С	The content of this IE is described in the next table. The IE may be sent when the VPLMN and the HPLMN of the subscriber are both North American. For MO calls, this IE shall contain any carrier that was dialled by the calling subscriber. If no carrier was dialled, the IE shall contain the calling subscriber's subscribed carrier. For MT and VT calls, the IE shall contain the carrier subscribed to by the called subscriber. For CF calls, the IE shall contain the carrier subscribed to by the forwarding subscriber.
Original Called Party ID	С	С	С	С	This IE carries the dialled digits if the call has met call forwarding on the route to the gsmSSF. This IE shall also be sent if it was received from the gsmSCF due to the previous CAMEL processing.
Redirecting Party ID	С	С	С	С	This IE indicates the directory number the call was redirected from. This IE shall also be sent if it was received from the gsmSCF due to the previous CAMEL processing.
Redirection Information	С	С	С	С	This IE contains forwarding related information, such as redirection counter. This IE shall also be sent if it was received from the gsmSCF due to the previous CAMEL processing.
Service Key	М	М	М	М	This IE indicates to the gsmSCF the requested CAMEL Service. It is used to address the required application/SLP within the gsmSCF.
Subscriber State	- 	- M	C	C	 This IE indicates the status of the MS. The states are: CAMELBusy: The MS is engaged on a transaction for a mobile originating or terminated circuit-switched call. NetworkDeterminedNotReachable: The network can determine from its internal data that the MS is not reachable. AssumedIdle: The state of the MS is neither "CAMELBusy" nor "NetworkDeterminedNotReachable". Not provided from VLR.
	111	101	101	101	and the time zone the gsmSSF resides in.

Information element name	MO	MF	MT	VT	Description	
GSM Forwarding Pending	-	-	С	С	This parameter indicates that a forwarded-to-number was received and the call will be forwarded due to GSM supplementary service call forwarding in the GMSC/VMSC. This parameter is present in the following cases: - When the FTN is received from the HLR prior to triggering in the Terminating_Attempt_Authorised DP. - When a conditional call forwarding or call deflection is invoked in the GMSC/MSC, and T_Busy or T_No_answer is reported as a TDP.	
Service Interaction Indicators Two	С	С	С	С	This IE is sent if it is received in the ISUP message or due to previous CAMEL processing. The IE is described in a table below.	
CUG Index	С	-	-	-	See 3GPP TS 23.085 [9] for details of this IE.	
CUG Interlock Code	С	С	С	С	See 3GPP TS 23.085 [9] for details of this IE. The latest available data shall be used, i.e., if the CUG data which had been obtained in the ISUP IAM or from the VLR has been modified by the previous Connect or Continue With Argument IF, this modified data shall be used.	
Outgoing Access Indicator	С	С	С	С	See 3GPP TS 23.085 [9] for details of this IE. In the MO case this IE is received from the VLR.	
M Mandatory (The IE shall always be sent). C Conditional (The IE shall be sent, if available). - Not applicable.						

Location Information is defined in 3GPP TS 23.018 [3]. The following differences apply:

Information element name	MO	MF	MT	VT	Description	
Location Number	-	-	С	С	See 3GPP TS 23.018 [3].	
Service area ID	C2	-	C2	C2	See 3GPP TS 23.018 [3].	
Cell ID	C2	-	C2	C2	See 3GPP TS 23.018 [3].	
Geographical information	С	-	С	С	See 3GPP TS 23.018 [3].	
Geodetic information	С	-	С	С	See 3GPP TS 23.018 [3].	
VLR number	М	-	С	М	See 3GPP TS 23.018 [3].	
Age Of location information	М	-	С	С	See 3GPP TS 23.018 [3].	
Current Location Retrieved	-	-	-	-	Not applicable	
Location area ID	C2	-	C2	C2	See 3GPP TS 23.003 [37].	
Selected LSA Identity	C1	-	C1	C1	This IE indicates the LSA identity associated with the current position of the MS. Shall be present if the LSA ID in the subscriber data matches the LSA ID of the current cell. In the case of multiple matches the LSA ID with the highest priority shall be sent. See 3GPP TS 23.073 [23].	
M Mandatory (The IE shall always be sent).						
C Conditional (The IE shall be sent, if available. Further conditions are in the description column.).						
C1 Conditional (The IE shall be sent, if available and SoLSA is supported).						
C2 Conditional (One and only one of the three conditional IEs shall be sent).						
- Not applicable.						

Carrier contains the following information:

Information element name	MO	MF	MT	VT	Description	
Carrier Identification Code	М	М	М	М	This IE uniquely identifies a North American long distance carrier.	
Carrier Selection Information	М	М	М	М	This IE indicates the way the carrier was selected e.g.: – dialled – subscribed	
M Mandatory (The IE shall always be sent).						

Service Interaction Indicators Two contains the following information:

Information element name	MO	MF	MT	VT	Description	
Forward Service Interaction	С	С	С	С	This IE is described in a table below.	
Indicator						
HOLD Treatment Indicator	С	-	-	С	This IE indicates whether the CAMEL subscriber can	
					invoke HOLD for the call.	
CW Treatment Indicator	С	-	-	С	This IE indicates whether CW can be applied for a call to	
					the CAMEL subscriber whilst this call is ongoing.	
ECT Treatment Indicator	С	-	-	С	This IE indicates whether the call leg can become part of	
					an ECT call initiated by the callingCAMEL subscriber.	
C Conditional (The IE shall be sent, if available).						
- Not applicable.						

Forward Service Interaction Indicator contains the following information:

Information element name	MO	MF	MT	VT	Description	
Conference Treatment Indicator	С	С	С	С	This IE indicates whether the call leg can become part of a	
					MPTY call initiated by the called subscriber.	
Call Diversion Treatment Indicator	С	С	С	С	This IE indicates whether the call can be forwarded using the Call Forwarding or Call Deflection Supplementary Services.	
C Conditional (The IE shall be sent, if available).						

*** End of Document ***