TSGS#22(03) 0693

Source: **SA1**

Title: **CRs to 22.078 on Allowing CSE to suppress terminating CAMEL handling on new leg in existing call (Rel-5, Rel-6)**

Document for: **Approval**

Agenda Item: **7.1.3**

Meet	Doc. No.	Spec	CR	Rev	Phase	Cat	Subject	Vers	New Vers	Doc. SA1
SP-22	SP-030693	22.078	165	-	Rel-5	F	Allowing CSE to suppress terminating CAMEL handling on new leg in existing call	5.11.0	5.12.0	S1-031316
SP-22	SP-030693	22.078	166	-	Rel-6	A	Allowing CSE to suppress terminating CAMEL handling on new leg in existing call	6.2.0	6.3.0	S1-031317

TSG-SA WG1 #22 **S1-031316**
Bangkok, Thailand, 27th – 31st October 2003 **Agenda Item: 8.2**

TSG-CN WG2 #31 **N2-030574**
Bangkok, Thailand, 27th – 31st October 2003 (revision of N2-030566)

CR-Form-v7

CHANGE REQUEST

⌘ **22.078** **CR** **165** ⌘ **rev** **-** ⌘ Current version: **5.11.0** ⌘

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

Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☐ Core Network ☒

Title:	⌘	Allowing CSE to suppress terminating CAMEL handling on new leg in existing call
Source:	⌘	SA1 (Ericsson)
Work item code:	⌘	CAMEL4 ***Date:*** ⌘ 29/10/2003
Category:	⌘	**F** (agreed by consensus) ***Release:*** ⌘ Rel-5

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)*
Rel-6	*(Release 6)*

Reason for change: ⌘

The current Call Party Handling definition in CAMEL Phase 4, Rel-5, does not allow for a ***Personal Ring Back Tone*** (PRBT) kind of service.

An instance of such PRBT Service may require that the called party leg in the GMSC be placed on hold, prior to call answer. Whilst the called party is in the held state, call establishment to that call party continues. I.e., the GMSC would continue with obtaining the Mobile Station Roaming Number (MSRN) from HLR, route the call to the VMSC etc.

Meanwhile, the PRBT Service may apply User Interaction towards the calling party, e.g. for the purpose of playing a personalised ring tone.

When the called party answers, the User Interaction towards the calling party is terminated and the called party is moved from the held state into the speech connection with the calling party.

From a service point of view, the placing of the called party in the held state may be done at ***call establishment*** or at at ***called party alerting***.

A similar service may be envisaged for Mobile Originated call establishment.

	However, these kind of services are not feasible with the current Call Party Handling definition of CAMEL Phase 4 in Rel-5. Reason is that the CAP Operation Split Leg, which is used to split a call leg off from the primary Call Segment (i.e. putting a call party on hold) has the pre-condition that the leg to be split shall be in the Active state (i.e. call party shall have answered). That pre-condition prevents the usage of Split Leg at ***call establishment*** or at at ***called party alerting***. And as a result, the above described kind of Personal Ring Back Tone Service is not possible. The present CR proposes the following solution. The CAP Operation ***Disconnect Leg*** (DL) may be used to disconnect the called party leg at call establishment, followed by the CAP Operation ***Initiate Call Attempt*** (ICA), to create a replacement called party leg. As a result of ICA, the replacement leg will be created in a held state. The PRBT Service may now apply User Interaction to the Calling Party, whilst call establishment to the called party continues. However, re-creating a call leg to the called party, using the same MSISDN as for the original call set up, results in looping for the Mobile Terminating (MT) call case: the GMSC would start a new MT call handling process, resulting in MAP SRI to the HLR, resulting in T-CSI to be sent to the GMSC. To overcome the loop, a CAMEL Service should have the capability to suppress MT CAMEL handling for the call leg created with ICA. That would enable a CAMEL Service to create an bew call party, using the same MSISDN as was used for the MT call leg establishment in the first place. The newly created call leg (the "New Party" (NP) leg) then results in the GMSC sending SRI to the HLR with the parameter "suppress T-CSI". The HLR now retrieves the MSRN from the VLR and the call is established to the VMSC. To accomplish the above, it is should be allowed for a CAMEL Service to include the Suppress T-CSI Information Element in the ICA Information Flow for NP call legs. Currently, the ICA Information Flow for "New Call" (NC) legs includes the Suppress T-CSI IE. Hence, GMSCs shall have the capability to convey this IE from CAP ICA to MAP SRI. The similar capability shall therefore be used for NP call legs.
Summary of change: ⌘	Allow the usage of the "Suppress T-CSI" IE in the ICA Information Flow for NP call legs.
Consequences if not approved: ⌘	Personal Ring Back Tone services can not be built with CAMEL Phase 4. PRBT Services have high revenue potential for operators.

Clauses affected:	⌘	8.1.1			
Other specs affected:	⌘	Y / N X / / X / X	Other core specifications Test specifications O&M Specifications	⌘	23.078-CR641
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/specs/CR.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://ftp.3gpp.org/specs/ 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.

****** For Information ******

--- Extract from TS 22.078 V5.11.0 ---

8.2 Creating a new call

The purpose of this procedure is to allow the CSE to create a new call to the served subscriber.

It shall be possible for the CSE to instruct the IPLMN/VPLMN of the served subscriber to initiate a new call on behalf of the served subscriber. The IPLMN/VPLMN shall have the possibility to reject this request. The CSE shall be able to instruct the HPLMN to suppress the invocation of Incoming call barrings for a CSE initiated call.

The CSE shall be able to instruct the HPLMN to suppress the triggering of terminating CAMEL-based services in the VPLMN for the served subscriber.

The CSE shall be able to instruct the IPLMN to suppress the triggering of terminating CAMEL-based services in the IPLMN for the served subscriber.

If the CSE sends a request to initiate a call, the events relating to unsuccessful call establishment and answer should be armed by the CSE to maintain a control relationship.

****** First Modified Section ******

8.1 CPH procedures for an existing call

8.1.1 Creating additional parties in the call

The purpose of this procedure is to allow the CSE to create additional parties in a call at any point during that call. The CSE initiated call leg shall be created in the held state in the IPLMN/VPLMN of the served subscriber.

If a control relationship exists, it shall be possible for the CSE to instruct the IPLMN/VPLMN of the served subscriber to initiate a new call leg to an additional party. The new call leg shall form part of the existing CPH configuration.

If a CSE initiated new call leg is created within a CAMEL relationship for a mobile originated call (MO case) or for a mobile terminating call in the VPLMN (VT case), then the CSE initiated new leg in the VPLMN shall be subject to the Outgoing Call Barring Supplementary Services and the Outgoing Operator Determined Barring categories. However the CSE shall be able to instruct the VPLMN to suppress the invocation for the new leg of conditional barring of outgoing calls by the call barring supplementary service and operator determined barring as indicated in subclause 18.8.

The CSE shall be able to instruct the IPLMN to suppress the triggering of terminating CAMEL-based services in the IPLMN for the additional party.

If the CSE sends a request to initiate a new call leg, then the events relating to unsuccessful call establishment and answer shall be armed by the CSE to maintain a control relationship.

8.1.2 Placing an individual call party on hold

The purpose of this procedure is to allow the CSE to instruct the IPLMN/VPLMN to place an individual call party on hold.

The CSE may instruct the IPLMN/VPLMN to put a call party on hold at any point during the active phase of the call leg if a control relationship exists.

The CSE shall be able to instruct the IPLMN/VPLMN to send a notification towards the held party indicating that she has been placed on hold. The notification shall be a tone or an announcement.

NOTE: This procedure does not use the HOLD supplementary service, however the notification message sent to the MS may be the same as for the HOLD supplementary service. The CSE may use other procedures instead of, or as well as, instructing the IPLMN/VPLMN to send a tone or announcement to notify the held party that she has been placed on hold.

8.1.3 Releasing call parties

The purpose of this procedure is to allow the CSE to instruct the IPLMN/VPLMN to release an individual call party or all the call parties in a CPH configuration.

The CSE may instruct the IPLMN/VPLMN to release all the call parties in a CPH configuration at any point in a call if a control relationship exists.

The CSE may instruct the IPLMN/VPLMN to release an individual CSE initiated call party at any point in a call if a control relationship exists.

If, at the initial service event, the CSE instructed the IPLMN/VPLMN not to route the call directly to the destination, then the CSE may instruct the IPLMN/VPLMN to release the calling party at any point in a call if a control relationship exists.

If, at the initial service event, the CSE instructed the IPLMN/VPLMN to proceed with the call as normal then the CSE may instruct the IPLMN/VPLMN to release the calling party or the called party during the active phase of the call only.

The release of the served subscriber shall not necessarily lead to the disconnection of the other parties in the CPH configuration.

8.1.4 Connecting an individual call party to the group

The purpose of this procedure is to allow the CSE to instruct the IPLMN/VPLMN to connect an individual call party to the group.

If, at the initial service event, the CSE instructed the IPLMN/VPLMN not to route the call leg directly to the destination, then the CSE may instruct the IPLMN/VPLMN to connect a held call party to the group at any point during the alerting and active phases of the call leg if a control relationship exists.

If, at the initial service event, the CSE instructed the IPLMN/VPLMN to proceed with the call as normal then the CSE may instruct the IPLMN/VPLMN to connect a held call party to the group at any point during the alerting and active phases of the call leg if a control relationship exists and at least one call leg in the group has reached the active phase.

If the CSE has initiated the call, it may instruct the IPLMN/VPLMN to connect another held call party to the group at any point during the alerting and active phases of the call leg.

The CSE shall be able to instruct the IPLMN/VPLMN to send a notification towards the previously held party indicating that she has been connected to the group. The CSE shall be able to instruct the IPLMN/VPLMN to send a notification towards the other party or parties in the group indicating that an additional party has been connected to the group. The notification shall be a tone or an announcement.

NOTE: The CSE may use other procedures instead of, or as well as, instructing the IPLMN/VPLMN to send a tone or announcement to notify the previously held party that she has been connected to the group. The same principle applies to the notification towards the other party or parties in the group.

****** End of Document ******

TSG-SA WG1 #22 **S1-031317**
Bangkok, Thailand, 27th – 31st October 2003 **Agenda Item: 8.2**

TSG-CN WG2 #31 **N2-030575**
Bangkok, Thailand, 27th – 31st October 2003

CR-Form-v7

CHANGE REQUEST

⌘ **22.078** **CR** **166** ⌘**rev** **-** ⌘ Current version: **6.2.0** ⌘

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

Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☐ Core Network ☒

Title:	⌘	Allowing CSE to suppress terminating CAMEL handling on new leg in existing call
Source:	⌘	SA1 (Ericsson)
Work item code:	⌘	CAMEL4
Date:	⌘	29/10/2003
Category:	⌘	**A**
Release:	⌘	Rel-6

Use one of the following categories:
F *(correction)*
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R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
Rel-4 (Release 4)
Rel-5 (Release 5)
Rel-6 (Release 6)

Reason for change: ⌘ The current Call Party Handling definition in CAMEL Phase 4, Rel-5, does not allow for a ***Personal Ring Back Tone*** (PRBT) kind of service.

An instance of such PRBT Service may require that the called party leg in the GMSC be placed on hold, prior to call answer. Whilst the called party is in the held state, call establishment to that call party continues. I.e., the GMSC would continue with obtaining the Mobile Station Roaming Number (MSRN) from HLR, route the call to the VMSC etc.

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	However, these kind of services are not feasible with the current Call Party Handling definition of CAMEL Phase 4 in Rel-5. Reason is that the CAP Operation Split Leg, which is used to split a call leg off from the primary Call Segment (i.e. putting a call party on hold) has the pre-condition that the leg to be split shall be in the Active state (i.e. call party shall have answered). That pre-condition prevents the usage of Split Leg at ***call establishment*** or at at ***called party alerting***. And as a result, the above described kind of Personal Ring Back Tone Service is not possible. The present CR proposes the following solution. The CAP Operation ***Disconnect Leg*** (DL) may be used to disconnect the called party leg at call establishment, followed by the CAP Operation ***Initiate Call Attempt*** (ICA), to create a replacement called party leg. As a result of ICA, the replacement leg will be created in a held state. The PRBT Service may now apply User Interaction to the Calling Party, whilst call establishment to the called party continues. However, re-creating a call leg to the called party, using the same MSISDN as for the original call set up, results in looping for the Mobile Terminating (MT) call case: the GMSC would start a new MT call handling process, resulting in MAP SRI to the HLR, resulting in T-CSI to be sent to the GMSC. To overcome the loop, a CAMEL Service should have the capability to suppress MT CAMEL handling for the call leg created with ICA. That would enable a CAMEL Service to create an bew call party, using the same MSISDN as was used for the MT call leg establishment in the first place. The newly created call leg (the "New Party" (NP) leg) then results in the GMSC sending SRI to the HLR with the parameter "suppress T-CSI". The HLR now retrieves the MSRN from the VLR and the call is established to the VMSC. To accomplish the above, it is should be allowed for a CAMEL Service to include the Suppress T-CSI Information Element in the ICA Information Flow for NP call legs. Currently, the ICA Information Flow for "New Call" (NC) legs includes the Suppress T-CSI IE. Hence, GMSCs shall have the capability to convey this IE from CAP ICA to MAP SRI. The similar capability shall therefore be used for NP call legs.
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Clauses affected:	⌘	8.1.1			
Other specs affected:	⌘	Y / N X / / X / X	Other core specifications Test specifications O&M Specifications	⌘	23.078-CR641
Other comments:	⌘				

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The CSE shall be able to instruct the HPLMN to suppress the triggering of terminating CAMEL-based services in the VPLMN for the served subscriber.

The CSE shall be able to instruct the IPLMN to suppress the triggering of terminating CAMEL-based services in the IPLMN for the served subscriber.

If the CSE sends a request to initiate a call, the events relating to unsuccessful call establishment and answer should be armed by the CSE to maintain a control relationship.

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The CSE shall be able to instruct the IPLMN/VPLMN to send a notification towards the held party indicating that she has been placed on hold. The notification shall be a tone or an announcement.

NOTE: This procedure does not use the HOLD supplementary service, however the notification message sent to the MS may be the same as for the HOLD supplementary service. The CSE may use other procedures instead of, or as well as, instructing the IPLMN/VPLMN to send a tone or announcement to notify the held party that she has been placed on hold.

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The CSE may instruct the IPLMN/VPLMN to release all the call parties in a CPH configuration at any point in a call if a control relationship exists.

The CSE may instruct the IPLMN/VPLMN to release an individual CSE initiated call party at any point in a call if a control relationship exists.

If, at the initial service event, the CSE instructed the IPLMN/VPLMN not to route the call directly to the destination, then the CSE may instruct the IPLMN/VPLMN to release the calling party at any point in a call if a control relationship exists.

If, at the initial service event, the CSE instructed the IPLMN/VPLMN to proceed with the call as normal then the CSE may instruct the IPLMN/VPLMN to release the calling party or the called party during the active phase of the call only.

The release of the served subscriber shall not necessarily lead to the disconnection of the other parties in the CPH configuration.

8.1.4 Connecting an individual call party to the group

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****** End of Document ******