

**Source:** TSG SA1

**Title:** CRs to 02.78 and 22.078 on Support of CAMEL Phase 1 and 2  
(R97/98/99)

**Document for:** Approval

**Agenda Item:** 7.1.3

Spec	CR	Rev	Phase	Cat	Subject	Vers	New Vers	SA1 Doc. No.
02.78	A042		R97	F	Support of CAMEL Phase 1 and 2	6.4.0	6.5.0	S1-000808
02.78	A043		R98	A	Support of CAMEL Phase 1 and 2	7.0.0	7.1.0	S1-000809
22.078	071		R99	A	Support of CAMEL Phase 1 and 2	3.5.0	3.6.0	S1-000810

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**3GPP TSG-CN2 Meeting #15**  
**Paris, France, 13<sup>th</sup> – 17<sup>th</sup> November 2000**

**Tdoc N2-000637**

## CHANGE REQUEST

**GSM 02.78 CR A042** rev **-** Current version: **6.4.0**

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

<b>Title:</b>	Support of CAMEL Phase 1 and 2		
<b>Source:</b>	SA1		
<b>Work item code:</b>	CAMEL2	<b>Date:</b>	17/00/2000
<b>Category:</b>	<b>F</b>	<b>Release:</b>	R97
	Use <u>one</u> of the following categories: <b>F</b> (essential correction) <b>A</b> (corresponds to a correction in an earlier release) <b>B</b> (Addition of feature), <b>C</b> (Functional modification of feature) <b>D</b> (Editorial modification)		Use <u>one</u> 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)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900.		

<b>Reason for change:</b>	It is unclear in the specifications whether a VPLMN or IPLMN can support CAMEL phase 2 without supporting CAMEL phase 1. The specifications do not explain the behaviour of entities if the IPLMN or VPLMN supports CAMEL phase 2 only and the HPLMN supports CAMEL phase 1 only.
<b>Summary of change:</b>	A VPLMN or IPLMN supporting CAMEL phase 2 shall also support CAMEL phase 1.
<b>Consequences if not approved:</b>	A CAMEL phase 1 service (e.g. prepay roaming) cannot be offered to a subscriber roaming in a VPLMN which supports CAMEL phase 2 but not CAMEL phase 1.

<b>Clauses affected:</b>	1	
<b>Other specs affected:</b>	<input checked="" type="checkbox"/> Other core specifications <input type="checkbox"/> Test specifications <input type="checkbox"/> O&M Specifications	GSM 02.78 R98 and 3G TS 22.078 R99
<b>Other comments:</b>		

**\*\*\*\* Modified Section \*\*\*\***

## 1 Scope

The present document specifies the stage 1 description for the first and the second phase of the CAMEL feature (Customised Applications for Mobile network Enhanced Logic) which provides the mechanisms to support services consistently independently of the serving network. The CAMEL features shall facilitate service control of operator specific services external from the serving PLMN. The CAMEL feature is a network feature and not a supplementary service. It is a tool to help the network operator to provide the subscribers with the operator specific services even when roaming outside the HPLMN.

CAMEL is developed in phases. The following phases exist:

- CAMEL phase 1. This is the default phase in the present document. Sections that are only applicable to phase 1 are characterised with the formal designator - \$(CAMEL1\$);
- CAMEL phase 2. It is characterised where necessary with the formal designation - \$(CAMEL2\$) and sometimes with an indication of CAMEL phase 2. - \$(CAMEL2\$).

A VPLMN or IPLMN supporting CAMEL phase 2 shall also support CAMEL phase 1. -\$(CAMEL2\$).

The CAMEL feature is applicable:

- to mobile originated and mobile terminated call related activities; and
- as a CAMEL phase 2 function, to supplementary service invocations - \$(CAMEL2\$).

The mechanism described addresses especially the need for information exchange among the VPLMN, HPLMN and the CAMEL Service Environment (CSE) for support of such operator specific services. Any user procedures for operator specific services are outside the scope of the present document.

The present document describes the interactions between the functions of the VPLMN, HPLMN, IPLMN and the CSE.

The second phase of CAMEL enhance the capabilities of phase 1 and are included in the present document. Following new topics are added:

- new event detection points were defined;
- it is possible to interact with a user using announcements, voice prompting and information collection via in band interaction or USSD interaction;
- it is possible to control the call duration and to transfer e-values from a serving node to the mobile station;
- the CSE can be informed about the invocation of GSM supplementary services (ECT, CD, MPTY);
- for easy post processing, charging information from a serving node can be integrated in normal call records.

Detailed information can be found in the respective sections.

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

**3GPP TSG-CN2 Meeting #15**  
**Paris, France, 13<sup>th</sup> – 17<sup>th</sup> November 2000**

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## CHANGE REQUEST

**GSM 02.78 CR A043** rev **-** Current version: **7.0.0**

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

<b>Title:</b>	Support of CAMEL Phase 1 and 2		
<b>Source:</b>	SA1		
<b>Work item code:</b>	CAMEL2	<b>Date:</b>	17 <sup>th</sup> November 2000
<b>Category:</b>	<b>A</b>	<b>Release:</b>	R98
	<i>Use <u>one</u> of the following categories:</i> <b>F</b> (essential correction) <b>A</b> (corresponds to a correction in an earlier release) <b>B</b> (Addition of feature), <b>C</b> (Functional modification of feature) <b>D</b> (Editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900.		<i>Use <u>one</u> of the following releases:</i> <b>2</b> (GSM Phase 2) <b>R96</b> (Release 1996) <b>R97</b> (Release 1997) <b>R98</b> (Release 1998) <b>R99</b> (Release 1999) <b>REL-4</b> (Release 4) <b>REL-5</b> (Release 5)

<b>Reason for change:</b>	It is unclear in the specifications whether a VPLMN or IPLMN can support CAMEL phase 2 without supporting CAMEL phase 1. The specifications do not explain the behaviour of entities if the IPLMN or VPLMN supports CAMEL phase 2 only and the HPLMN supports CAMEL phase 1 only.
<b>Summary of change:</b>	A VPLMN or IPLMN supporting CAMEL phase 2 shall also support CAMEL phase 1.
<b>Consequences if not approved:</b>	A CAMEL phase 1 service (e.g. prepay roaming) cannot be offered to a subscriber roaming in a VPLMN which supports CAMEL phase 2 but not CAMEL phase 1.

<b>Clauses affected:</b>	1	
<b>Other specs affected:</b>	<input checked="" type="checkbox"/> Other core specifications <input type="checkbox"/> Test specifications <input type="checkbox"/> O&M Specifications	GSM 02.78 R97 and 3G TS 22.078 R99
<b>Other comments:</b>		

**\*\*\*\* Modified Section \*\*\*\***

## 1 Scope

The present document specifies the stage 1 description for the first and the second phase of the CAMEL feature (Customised Applications for Mobile network Enhanced Logic) which provides the mechanisms to support services consistently independently of the serving network. The CAMEL features shall facilitate service control of operator specific services external from the serving PLMN. The CAMEL feature is a network feature and not a supplementary service. It is a tool to help the network operator to provide the subscribers with the operator specific services even when roaming outside the HPLMN.

CAMEL is developed in phases. The following phases exist:

- CAMEL phase 1. This is the default phase in the present document. Sections that are only applicable to phase 1 are characterised with the formal designator - \$(CAMEL1\$)
- CAMEL phase 2. It is characterised where necessary with the formal designation - \$(CAMEL2\$) and sometimes with an indication of CAMEL phase 2. - \$(CAMEL2\$)

A VPLMN or IPLMN supporting CAMEL phase 2 shall also support CAMEL phase 1. -\$(CAMEL2\$).

The CAMEL feature is applicable

- to mobile originated and mobile terminated call related activities;
- and, as a CAMEL phase 2 function, to supplementary service invocations - \$(CAMEL2\$)

The mechanism described addresses especially the need for information exchange among the VPLMN, HPLMN and the CAMEL Service Environment (CSE) for support of such operator specific services. Any user procedures for operator specific services are outside the scope of the present document.

The present document describes the interactions between the functions of the VPLMN, HPLMN, IPLMN and the CSE.

The second phase of CAMEL enhance the capabilities of phase 1 and are included in the present document. Following new topics are added:

- New event detection points were defined.
- It is possible to interact with a user using announcements, voice prompting and information collection via in band interaction or USSD interaction.
- It is possible to control the call duration and to transfer e-values from a serving node to the mobile station.
- The CSE can be informed about the invocation of GSM supplementary services (ECT, CD, MPTY).
- For easy post processing, charging information from a serving node can be integrated in normal call records.

Detailed information can be found in the respective sections.

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

3GPP TSG-CN2 Meeting #15  
Paris, France, 13<sup>th</sup> – 17<sup>th</sup> November 2000

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## CHANGE REQUEST

**3G TS 22.078 CR 071** rev **-** Current version: **3.5.0**

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

<b>Title:</b>	Support of CAMEL Phase 1 and 2		
<b>Source:</b>	SA1		
<b>Work item code:</b>	CAMEL2	<b>Date:</b>	17 <sup>th</sup> November 2000
<b>Category:</b>	<b>A</b>	<b>Release:</b>	R99
	<i>Use <u>one</u> of the following categories:</i> <b>F</b> (essential correction) <b>A</b> (corresponds to a correction in an earlier release) <b>B</b> (Addition of feature), <b>C</b> (Functional modification of feature) <b>D</b> (Editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900.		<i>Use <u>one</u> of the following releases:</i> <b>2</b> (GSM Phase 2) <b>R96</b> (Release 1996) <b>R97</b> (Release 1997) <b>R98</b> (Release 1998) <b>R99</b> (Release 1999) <b>REL-4</b> (Release 4) <b>REL-5</b> (Release 5)

<b>Reason for change:</b>	It is unclear in the specifications whether a VPLMN or IPLMN can support CAMEL phase 2 without supporting CAMEL phase 1. The specifications do not explain the behaviour of entities if the IPLMN or VPLMN supports CAMEL phase 2 only and the HPLMN supports CAMEL phase 1 only.
<b>Summary of change:</b>	A VPLMN or IPLMN supporting CAMEL phase 2 shall also support CAMEL phase 1.
<b>Consequences if not approved:</b>	A CAMEL phase 1 service (e.g. prepay roaming) cannot be offered to a subscriber roaming in a VPLMN which supports CAMEL phase 2 but not CAMEL phase 1.

<b>Clauses affected:</b>	1	
<b>Other specs affected:</b>	<input checked="" type="checkbox"/> Other core specifications <input type="checkbox"/> Test specifications <input type="checkbox"/> O&M Specifications	GSM 02.78 R97 and GSM 02.78 R98
<b>Other comments:</b>		

**\*\*\* Modified Section \*\*\*****1 Scope**

This standard specifies the stage 1 description for CAMEL feature (Customised Applications for Mobile network Enhanced Logic) which provides the mechanisms to support services consistently independently of the serving network. The CAMEL features shall facilitate service control of operator specific services external from the serving PLMN. The CAMEL feature is a network feature and not a supplementary service. It is a tool to help the network operator to provide the subscribers with the operator specific services even when roaming outside the HPLMN.

CAMEL is developed in phases. The following phases exist:

- CAMEL phase 1. This is the default phase in this specification. Text that are only applicable to phase 1 are characterised with the formal designator - \$(CAMEL1\$)
- CAMEL phase 2. It is characterised where necessary with the formal designation - \$(CAMEL2\$) and sometimes with an indication of CAMEL phase 2. - \$(CAMEL2\$)
- CAMEL phase 3. It is characterised where necessary with the formal designation - \$(CAMEL3\$) and sometimes with an indication of CAMEL phase 2. - \$(CAMEL3\$)

A VPLMN or IPLMN supporting CAMEL phase 2 shall also support CAMEL phase 1. -\$(CAMEL2\$).

The CAMEL feature is applicable

- to mobile originated and mobile terminated call related activities;
- as a CAMEL phase 2 function, to supplementary service invocations - \$(CAMEL2\$);
- as a CAMEL Phase 3 function, to SMS MO, to GPRS sessions and PDP contexts, to the control of HLR subscriber data, to the control of network signalling load - \$(CAMEL3\$).

The mechanism described addresses especially the need for information exchange among the VPLMN, HPLMN and the CAMEL Service Environment (CSE) for support of such operator specific services. Any user procedures for operator specific services are outside the scope of this standard.

This specification describes the interactions between the functions of the VPLMN, HPLMN, IPLMN and the CSE.

The second phase of CAMEL enhance the capabilities of phase 1 and are included in this standard. Following capabilities are added:

- Additional event detection points.
- Interaction between a user and service using announcements, voice prompting and information collection via in band interaction or USSD interaction.
- Control of call duration and transfer of Advice of Charge Information to the mobile station.
- The CSE can be informed about the invocation of supplementary services (e.g ECT, CD, MPTY).
- For easy postprocessing, charging information from a serving node can be integrated in normal call records.

The third phase of CAMEL enhances the capabilities of phase 2. Following capabilities are added :

- Support of facilities to avoid overload situations.
- Capabilities to support Dialed Services.
- Capabilities to handle mobility events, such as (Not-)reachability and roaming.
- Control of GPRS sessions and PDP contexts.
- Control of circuit switched mobile originating SMS and packet switched mobile originating SMS.
- Support of SoLSA. Support of Localised Service Area interworking is an optional feature. - \$(CAMEL3\$)
- The CSE can be informed about the invocation of GSM supplementary services (CCBS) - \$(CAMEL3\$)

Detailed information can be found in the respective sections.

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

