Technical Specification Group Services and System Aspects   **TSGS#27(05) 0214**
Meeting #28, Quebec, Canada, 6-8 June 2005

Source:	**SA1**
Title:	**CRs to 22.078 on Correction to interworking between CAMEL and SCUDIF calls (Rel-6, Rel-7)**
Document for:	**Approval**
Agenda Item:	**7.1.3**

Meeting	SA Doc	TS No.	CR No	Rev	Rel	Cat	Subject	Vers Current	Vers New	SA1 Doc
SP-28	SP-050214	22.078	185	-	Rel-6	F	CR, Correction to interworking between CAMEL and SCUDIF calls	6.7.0	6.8.0	S1-050534
SP-28	SP-050214	22.078	186	-	Rel-7	A	CR, Correction to interworking between CAMEL and SCUDIF calls	7.3.0	7.4.0	S1-050535

CHANGE REQUEST

⌘ **22.078** CR **185** ⌘**rev** **-** ⌘ Current version: **6.7.0** ⌘

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

Title:	⌘	Correction to interworking between CAMEL and SCUDIF calls	
Source:	⌘	SA1 (Ericsson)	
Work item code: ⌘	CSCAMEL	***Date:*** ⌘	08/04/2005
Category: ⌘	F	***Release:*** ⌘	Rel-6

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)*

Use one of the following releases:
Ph2 *(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)*
Rel-7 *(Release 7)*

Reason for change: ⌘	Section 21 (Interactions with video call and SCUDIF call) is not complete and contains a number of errors and inconsistencies.
Summary of change: ⌘	The present CR proposes the following corrections to section 21.

The title should not refer to video call; control of video calls is already available in earlier CAMEL Phases. Restrictrions that apply to video calls are similar to restrictions that apply to data calls, fax calls etc. Section 21 is introduced for SCUDIF calls, so the title should refer to SCUDIF and not to video calls.

Reference to TS 23.172 is included for "preferred service", "less preferred service" etc.

The SCUDIF-specific requirements need to be split up in sections, to improve the structure of section 21. The following aspects relate to SCUDIF:

- **Call Party Handling**: clear distinction is needed between CPH for SCUDIF call before answer and CPH for SCUDIF call after answer. CPH shall be allowed only when the preferred / selected service is speech. After the completion of the CPH procedure, the VPLMN/IPLMN shall force a fallback to speech.

- **User Interaction**: the current text implies that there may be a selected service during call establishment. That is not correct. During call establishment, there may be a *preferred service* and *less preferred service*.

- **User-requested service change**. It is currently not specified when a user-requested service change shall be allowed. The VPLMN/IPLMN shall not

allow User-requested service change during User Interaction. In addition, the execution of service change shall stop the playing of a warning tone.

- **CAMEL warning tones**. The section needs to be split up to make clear distinction between warning tone that is coupled with call duration control (*Apply Charging*; see TS 23.078) and tone injection (*Play Tone*; see TS 23.078). The term "flexible warning tone" should not be used, since it applies to both types of warning tone.

  SCUDIF does not impose a restriction for the <u>instruction</u> for the warning tone related to call duration control. However, when the VPLMN/IPLMN has come to the point in the call where the tone shall be played (Tw expiry; see TS 23.078), the tone shall be connected only when the selected service is speech.

  Regarding the tone injection (Play Tone), which results in *immediate tone playing*, this instruction shall be accepted only when the selected service is speech.

- **Mid-call procedure**. It is currently not specified whether mid-call procedure is allowed for SCUDIF calls. SCUDIF does not impose a restriction on mid-call procedure, neither during speech, nor during multi media.

- **Follow-on call**. Follow-on calls are posisble with SCUDIF. That capability is currently not specified in TS 22.078. For follow-on call before answer, the VPLMN/IPLMN shall create the follow-on call with preferred service and less preferred service as available at call establishment. For follow-on call after answer, the VPLMN/IPLMN shall create the follow-on call with selected service and not-active service, as applicable during the active phase of the call.

- **Service initiation at unsuccessful call establishment**. That capability is currently not specified in TS 22.078. This functionality relates to TDP Route Select Failure, TDP T Busy and TDP T No Answer (see TS 23.078). For these service invocations, the VPLMN/IPLMN shall report preferred service and less preferred service that were available at call establishment.

Consequences if not approved:	⌘	Inconsistency in CAMEL control of SCUDIF calls, especially in the case of multi-vendor network implementation. This may lead to SCUDIF call failure.

Clauses affected:	⌘	2, 21

		Y	N		
Other specs affected:	⌘		X	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	

Other comments:	⌘	

*** *First Change* ***

2   References

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

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document.*

[1]   3GPP TS 22.093: "Completion of Calls to Busy Subscriber (CCBS); Service description, Stage 1".

[2]   3GPP TS 22.079: "Support of Optimal Routeing (SOR); Service definition (Stage 1)".

[3]   3GPP TS 22.030: "Man-machine Interface (MMI) of the Mobile Station (MS) (Stage 1)".

[4]   3GPP TS 22.090: "Stage 1 Decision of Unstructured Supplementary Service Data (USSD)".

[5]   3GPP TS 22.097: "Multiple Subscriber Profile (MSP); Service definition (Stage 1)".

[6]   3GPP TS 22.060: "General Packed Radio Service (GPRS); Service definition (Stage 1)".

[7]   3GPP TS 22.057: "Mobile Environment (MExE); Service definition (Stage 1)".

[8]   3GPP TS 22.071: "Location Services; Service Definition (Stage1) ".

[9]   3GPP TS 23.018: "Basic Call Handling; Technical Realization".

[10]   3GPP TS 22.003: "Circuit teleservices supported by a public land mobile network (PLMN) ".

[11]   3GPP TS 22.228: "Service Requirements for IP multimedia Core Network; (Stage1) ".

[12]   3GPP TS 23.228: "IP Multimedia (IM) Subsystem - Stage 2".

[13]   3GPP TS 23.060: "General Packet Radio Service (GPRS); Service description; Stage 2".

[14]   3GPP TS 23.172: "Technical realization of Circuit Switched (CS); multimedia service; UDI/RDI fallback and service modification; stage 2".

*** *Next Change* ***

21 Interactions with ~~video call and~~ SCUDIF call

Refer to 3GPP TS 23.172 [14] for a definition of "preferred service", "less preferred", "service selected ~~service~~" and "fallback".

21.1 Call Party Handling

The CSE may invoke CPH procedures only if one of the following conditions is fulfilled:

-      during call establishment, the preferred service is speech. After the VPLMN/IPLMN has completed the CPH procedure, the VPLMN/IPLMN shall force a fallback to speech; or

- during the active phase of the call, the selected service is speech. After the VPLMN/IPLMN has completed the CPH procedure, the VPLMN/IPLMN shall force a fallback to speech.

- ~~The call has made fall-back to speech; Or,~~

- ~~The preferred service is speech and the less preferred service is prevented.~~

21.2 User Interaction

The CSE may initiate user interaction or order in-band tone only if one of the following conditions is fulfilled:

- during call establishment, the preferred service is speech; or

- during the active phase of the call, the selected service is speech.

- ~~The preferred service is speech at the call establishment phase; Or,~~

- ~~The selected service is speech at the call establishment phase or active phase of the call.~~

21.3 User-requested service change

The VPLMN/IPLMN shall disallow a user request for service change during user interaction.

If the user request for service change occurs during the playing of a CAMEL warning tone, then the playing of the CAMEL warning tone shall be stopped.

21.4 CAMEL warning tones

21.4.1 Warning tone related to call duration control

For a SCUDIF call the CAMEL warning tone may be ordered by the CSE. At the time of tone connection, the VPLMN/IPLMN shall not connect the tone if the selected service is multi media.

21.4.2 Warning tone related to tone injection

The CSE shall be able to inject a warning tone if the selected service is speech, but not if the selected service is multi media.

~~For a SCUDIF call the CAMEL warning tone and flexible tone may be ordered by the CSE. At the time of tone connection the VPLMN/IPLMN shall not connect the tone if the multimedia is currently being used.~~

21.5 Mid-call procedure

The CSE shall be able to arm the mid-call event when the selected/preferred service is either speech or multi media.

21.6 Follow-on call

If the CSE creates a follow-on call before the call has reached the active phase, then the VPLMN/IPLMN shall establish the follow-on call with the preferred service and the less preferred service that were available during call establishment.

If the CSE creates a follow-on call after the call has reached the active phase, then the VPLMN/IPLMN shall establish the follow-on call with the selected service and the not-active service that were available during the active phase of the call.

21.7 Service initiation at unsuccessful call establishment

If an initial service event occurs due to unsuccessful call establishment, then the VPLMN/IPLMN shall report to the CSE, the preferred service and the less preferred service that were available during call establishment.

*** *End of Document* ***

CHANGE REQUEST

| ⌘ | **22.078** CR | **186** | ⌘**rev** | **-** | ⌘ | Current version: | **7.3.0** | ⌘ |

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

Title:	⌘	Correction to interworking between CAMEL and SCUDIF calls		
Source:	⌘	SA1 (Ericsson)		
Work item code:⌘	CSCAMEL		***Date:*** ⌘	08/04/2005
Category:	⌘ **A**		***Release:*** ⌘	Rel-7

Use <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)*

Use <u>one</u> of the following releases:
  Ph2   (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)
  Rel-7   (Release 7)

Reason for change: ⌘ Section 21 (Interactions with video call and SCUDIF call) is not complete and contains a number of errors and inconsistencies.

Summary of change:⌘ The present CR proposes the following corrections to section 21.

The title should not refer to video call; control of video calls is already available in earlier CAMEL Phases. Restrictrions that apply to video calls are similar to restrictions that apply to data calls, fax calls etc. Section 21 is introduced for SCUDIF calls, so the title should refer to SCUDIF and not to video calls.

Reference to TS 23.172 is included for "preferred service", "less preferred service" etc.

The SCUDIF-specific requirements need to be split up in sections, to improve the structure of section 21. The following aspects relate to SCUDIF:

- **Call Party Handling**: clear distinction is needed between CPH for SCUDIF call before answer and CPH for SCUDIF call after answer. CPH shall be allowed only when the preferred / selected service is speech. After the completion of the CPH procedure, the VPLMN/IPLMN shall force a fallback to speech.

- **User Interaction**: the current text implies that there may be a selected service during call establishment. That is not correct. During call establishment, there may be a *preferred service* and *less preferred service*.

- **User-requested service change**. It is currently not specified when a user-requested service change shall be allowed. The VPLMN/IPLMN shall not

allow User-requested service change during User Interaction. In addition, the execution of service change shall stop the playing of a warning tone.

- **CAMEL warning tones**. The section needs to be split up to make clear distinction between warning tone that is coupled with call duration control (*Apply Charging*; see TS 23.078) and tone injection (*Play Tone*; see TS 23.078). The term "flexible warning tone" should not be used, since it applies to both types of warning tone.

  SCUDIF does not impose a restriction for the <u>instruction</u> for the warning tone related to call duration control. However, when the VPLMN/IPLMN has come to the point in the call where the tone shall be played (Tw expiry; see TS 23.078), the tone shall be connected only when the selected service is speech.

  Regarding the tone injection (Play Tone), which results in *immediate tone playing*, this instruction shall be accepted only when the selected service is speech.

- **Mid-call procedure**. It is currently not specified whether mid-call procedure is allowed for SCUDIF calls. SCUDIF does not impose a restriction on mid-call procedure, neither during speech, nor during multi media.

- **Follow-on call**. Follow-on calls are posisble with SCUDIF. That capability is currently not specified in TS 22.078. For follow-on call before answer, the VPLMN/IPLMN shall create the follow-on call with preferred service and less preferred service as available at call establishment. For follow-on call after answer, the VPLMN/IPLMN shall create the follow-on call with selected service and not-active service, as applicable during the active phase of the call.

- **Service initiation at unsuccessful call establishment**. That capability is currently not specified in TS 22.078. This functionality relates to TDP Route Select Failure, TDP T Busy and TDP T No Answer (see TS 23.078). For these service invocations, the VPLMN/IPLMN shall report preferred service and less preferred service that were available at call establishment.

Consequences if not approved:	⌘	Inconsistency in CAMEL control of SCUDIF calls, especially in the case of multi-vendor network implementation. This may lead to SCUDIF call failure.

Clauses affected:	⌘	2, 21

		Y	N		
Other specs affected:	⌘		X	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	

Other comments:	⌘	

*** *First Change* ***

2 References

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

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document.*

[1] 3GPP TS 22.093: "Completion of Calls to Busy Subscriber (CCBS); Service description, Stage 1".

[2] 3GPP TS 22.079: "Support of Optimal Routeing (SOR); Service definition (Stage 1)".

[3] 3GPP TS 22.030: "Man-machine Interface (MMI) of the Mobile Station (MS) (Stage 1)".

[4] 3GPP TS 22.090: "Stage 1 Decision of Unstructured Supplementary Service Data (USSD)".

[5] 3GPP TS 22.097: "Multiple Subscriber Profile (MSP); Service definition (Stage 1)".

[6] 3GPP TS 22.060: "General Packed Radio Service (GPRS); Service definition (Stage 1)".

[7] 3GPP TS 22.057: "Mobile Environment (MExE); Service definition (Stage 1)".

[8] 3GPP TS 22.071: "Location Services; Service Definition (Stage1) ".

[9] 3GPP TS 23.018: "Basic Call Handling; Technical Realization".

[10] 3GPP TS 22.003: ""Circuit teleservices supported by a public land mobile network (PLMN) "".

[11] 3GPP -TS 22.228: ""Service Requirements for IP multimedia Core Network; (Stage1) "".

[12] 3GPP TS 23.228: ""IP Multimedia (IM) Subsystem - Stage 2"".

[13] 3GPP TS 23.060: "General Packet Radio Service (GPRS); Service description; Stage 2".

[14] 3GPP TS 23.172: "Technical realization of Circuit Switched (CS); multimedia service; UDI/RDI fallback and service modification; stage 2".

*** *Next Change* ***

21 Interactions with ~~video call and~~ SCUDIF call

Refer to 3GPP TS 23.172 [14] for a definition of "preferred service", "less preferred", "service selected ~~service~~" and "fallback".

21.1 Call Party Handling

The CSE may invoke CPH procedures only if one of the following conditions is fulfilled:

- during call establishment, the preferred service is speech. After the VPLMN/IPLMN has completed the CPH procedure, the VPLMN/IPLMN shall force a fallback to speech; or

- during the active phase of the call, the selected service is speech. After the VPLMN/IPLMN has completed the CPH procedure, the VPLMN/IPLMN shall force a fallback to speech.

- ~~The call has made fall-back to speech; Or,~~

- ~~The preferred service is speech and the less preferred service is prevented.~~

21.2 User Interaction

The CSE may initiate user interaction or order in-band tone only if one of the following conditions is fulfilled:

- during call establishment, the preferred service is speech; or

- during the active phase of the call, the selected service is speech.

- ~~The preferred service is speech at the call establishment phase; Or,~~

- ~~The selected service is speech at the call establishment phase or active phase of the call.~~

21.3 User-requested service change

The VPLMN/IPLMN shall disallow a user request for service change during user interaction.

If the user request for service change occurs during the playing of a CAMEL warning tone, then the playing of the CAMEL warning tone shall be stopped.

21.4 CAMEL warning tones

21.4.1 Warning tone related to call duration control

For a SCUDIF call the CAMEL warning tone may be ordered by the CSE. At the time of tone connection, the VPLMN/IPLMN shall not connect the tone if the selected service is multi media.

21.4.2 Warning tone related to tone injection

The CSE shall be able to inject a warning tone if the selected service is speech, but not if the selected service is multi media.

~~For a SCUDIF call the CAMEL warning tone and flexible tone may be ordered by the CSE. At the time of tone connection the VPLMN/IPLMN shall not connect the tone if the multimedia is currently being used.~~

21.5 Mid-call procedure

The CSE shall be able to arm the mid-call event when the selected/preferred service is either speech or multi media.

21.6 Follow-on call

If the CSE creates a follow-on call before the call has reached the active phase, then the VPLMN/IPLMN shall establish the follow-on call with the preferred service and the less preferred service that were available during call establishment.

If the CSE creates a follow-on call after the call has reached the active phase, then the VPLMN/IPLMN shall establish the follow-on call with the selected service and the not-active service that were available during the active phase of the call.

21.7 Service initiation at unsuccessful call establishment

If an initial service event occurs due to unsuccessful call establishment, then the VPLMN/IPLMN shall report to the CSE, the preferred service and the less preferred service that were available during call establishment.

*** *End of Document* ***