3GPP TSG CN Plenary Meeting #18 **NP-020525**
4th - 6th December 2002. New Orleans, USA.

Source: TSG CN WG2

Title: CRs to R99 WI CAMEL3

Agenda item: 7.1

Document for: APPROVAL

Introduction:

This document contains a CR on R99 WI CAMEL3 and corresponding Rel-4/Rel-5 mirror CRs. These CRs have been agreed by TSG CN WG2 and are forwarded to TSG CN Plenary meeting #18 for approval.

Spec	CR	Rev	Doc-2nd-Level	Phase	Subject	Cat	Ver_C
23.078	509		N2-021041	R99	Correction to interaction between MO-SMS and CB / ODB	F	3.14.0
23.078	510		N2-021042	Rel-4	Correction to interaction between MO-SMS and CB / ODB	A	4.6.1
23.078	461		N2-021002	Rel-5	Correction to interaction between MO-SMS and CB / ODB	A	5.1.0

3GPP TSG-CN WG2 Meeting #27 **Tdoc N2-021002**
Bangkok, Thailand, 11th - 15th November 2002

CHANGE REQUEST

⌘ **23.078** **CR** **461** ⌘ **rev** ⌘ Current version: **5.1.0** ⌘

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

Title:	⌘	Correction to interaction between MO-SMS and CB / ODB
Source:	⌘	Ericsson
Work item code:	⌘	CAMEL3
Date:	⌘	17/09/2002
Category:	⌘	A
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)*

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:	⌘	When the MSC or SGSN handles the submission of an MO-SMS, then the conditional Call Barring (CB) and Operator Determined Barring (ODB) categories are checked after the smsSSF has given the control of the MO-SMS back to the MSC or SGSN. It is currently not specified how the MSC or SGSN shall behave in the case that the submission of an MO-SMS is prevented due to any of the CB or ODB categories. When the submission of an MO-SMS is prevented due to any of the CB or ODB categories, then the SGSN shall inform the smsSSF, so the smsSSF can inform the gsmSCF, by means of an Event Report SMS operation. The sending of this Event Report SMS operation to the gsmSCF remains subject to the arming of that event at that moment. The cause code to be used between the MSC or SGSN and the smsSSF, shall be "sM-DeliveryFailure". This cause code is the most applicable out of the list of available SMS cause codes (systemFailure, unexpectedDataValue, facilityNotSupported, sM-DeliveryFailure, releaseFromRadioInterface). Introducing a new cause code would require an AC version increase.
Summary of change:	⌘	Specify the following in section 7.4.2: (1) when CB or ODB prevents the submission of an MO-SMS, then the MSC or SGSN shall generate a "O_SMS_Failure" failure event. (2) The cause code to be used in above case shall be "sM-DeliveryFailure".
Consequences if not approved:	⌘	- MSCs or SGSNs may not report to the SCP that the submission of the MO-SMS was barred due to Call Barring or ODB. This may result in hanging

	smsSSF individuals or hanging CAP dialogues. - MSCs and SGSNs may use different cause code values when reporting the SMS delivery failure as a result of CB or ODB.

Clauses affected:	⌘	7.4.2			
		Y	**N**		
Other specs affected:	⌘		**X**	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

*** *First Modification* ***

7.4.2 Mobile Originating SMS State Models

7.4.2.1 Description of MO SMS state model

The MO SMS state model is used to describe the actions in an MSC and in a SGSN during Mobile Originating SMS.

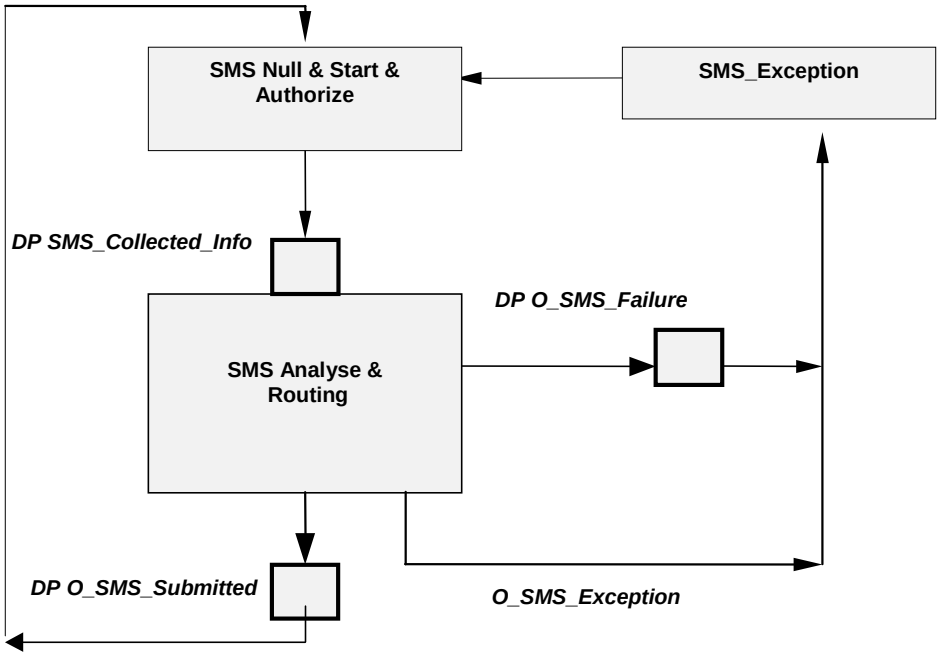

Figure 7.2: MO SMS State Model

Table 7.1: Description of MO SMS DPs in the MSC and SGSN

CAMEL Detection Point	DP Type	Description
DP SMS_Collected_Info	TDP-R	Indication that the MO-SMS-CSI is analysed and a mobile originated short message is received.
DP O_SMS_Failure	EDP-N, EDP-R	Indication that the SM submission to the Short Message Service Centre failed
DP O_SMS_Submitted	EDP-N, EDP-R	Indication that the SM has been successfully submitted to the Short Message Service Centre.

7.4.2.1.1 Description of the MO SMS state model (PIAs)

This subclause describes the state model for originating SMS transfer. For each PIA a description can be found of the entry events, actions and exit events.

7.4.2.1.1.1 SMS Null & Start & Authorize

Entry events:

- Previous MO SMS transfer to the SMSC completed (DP O_SMS_Submitted).
- Exception event is reported.

Actions:

- Interface is idled.
- Authentication.

- Ciphering.
- MO SMS subscription check.
- RP-MO-DATA message containing the User Data and the SMSC address is received from MS.
- The supplementary service "barring of all outgoing calls" is checked and invoked if necessary.
- The ODB category "barring of all outgoing calls" is checked and ODB is invoked if necessary.

Exit events:

- MO-SMS-CSI is analysed.
- An exception condition is encountered.

7.4.2.1.1.2 SMS Analyse & Routing

Entry events:

- MO-SMS - CSI is analysed (DP SMS_Collected_Info).

Actions:

- Information being analysed and/or translated to determine routeing address of the SMSC.
- Outgoing barring services and ODB categories not already applied are checked and invoked if necessary. If any of the barring services or ODB categories prevents the submission of the MO-SMS, then the MSC or SGSN shall generate the "O_SMS_Failure" event. The cause code to be used in that case shall be "sM-DeliveryFailure".
- The short message is sent to the SMSC.

Exit events:

- Acknowledge from the SMSC is received. (DP O_SMS_submitted).

  A positive acknowledgement is sent to the MS.
- An exception condition is encountered - this leads to the SMS_Exception PIA.

  A negative acknowledgement is sent to the MS.
- Attempt to select the route for the SMS fails (DP O_SMS_Failure).

  A negative acknowledgement is sent to the MS.
- Negative acknowledgement from the SMSC is received (DP O_SMS_Failure).

  A negative acknowledgement is sent to the MS.

[CR editor's note: I have corrected the indentation in the above bulleted list.]

7.4.2.1.1.3 SMS_Exception

Entry events:

- An exception condition is encountered. In addition to specific examples listed above, exception events include any type of failure, which means that the normal exit events for a PIA cannot be met.

Actions:

- Default handling of the exception condition is applied. This includes general actions necessary to ensure that no resources remain inappropriately allocated such as:
  - If a relationship exists between the gsmSCF and gsmSSF or gprsSSF send an error information flow closing the relationship and indicating that any outstanding Short Message handling instructions will not run to completion.

- The MSC/gsmSSF or SGSN/gprsSSF shall make use of vendor-specific procedures to ensure release of internal resources.

Exit events:

- Default handling of the exception condition by MSC/gsmSSF or SGSN/gprsSSF completed.

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

3GPP TSG-CN WG2 Meeting #27 **Tdoc N2-021041**
Bangkok, Thailand, 11th - 15th November 2002

CHANGE REQUEST

⌘ **23.078** **CR** **509** ⌘ **rev** ⌘ Current version: **3.14.0** ⌘

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

Title:	⌘	Correction to interaction between MO-SMS and CB / ODB
Source:	⌘	Ericsson
Work item code:	⌘	CAMEL3 ***Date:*** ⌘ 11/11/2002
Category:	⌘	F ***Release:*** ⌘ R99

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:

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:	⌘	When the MSC or SGSN handles the submission of an MO-SMS, then the conditional Call Barring (CB) and Operator Determined Barring (ODB) categories are checked after the smsSSF has given the control of the MO-SMS back to the MSC or SGSN. It is currently not specified how the MSC or SGSN shall behave in the case that the submission of an MO-SMS is prevented due to any of the CB or ODB categories. When the submission of an MO-SMS is prevented due to any of the CB or ODB categories, then the SGSN shall inform the smsSSF, so the smsSSF can inform the gsmSCF, by means of an Event Report SMS operation. The sending of this Event Report SMS operation to the gsmSCF remains subject to the arming of that event at that moment. The cause code to be used between the MSC or SGSN and the smsSSF, shall be "sM-DeliveryFailure". This cause code is the most applicable out of the list of available SMS cause codes (systemFailure, unexpectedDataValue, facilityNotSupported, sM-DeliveryFailure, releaseFromRadioInterface). Introducing a new cause code would require an AC version increase.
Summary of change:	⌘	Specify the following in section 7.4.2: (1) when CB or ODB prevents the submission of an MO-SMS, then the MSC or SGSN shall generate a "O_SMS_Failure" failure event. (2) The cause code to be used in above case shall be "sM-DeliveryFailure".
Consequences if not approved:	⌘	- MSCs or SGSNs may not report to the SCP that the submission of the MO-SMS was barred due to Call Barring or ODB. This may result in hanging

	smsSSF individuals or hanging CAP dialogues. - MSCs and SGSNs may use different cause code values when reporting the SMS delivery failure as a result of CB or ODB.

Clauses affected:	⌘	7.4.2			
		Y	**N**		
Other specs affected:	⌘		**X**	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

*** *First Modification* ***

7.4.2 Mobile Originating SMS State Models

7.4.2.1 Description of MO SMS state model

The MO SMS state model is used to describe the actions in an MSC and in a SGSN during Mobile Originating SMS.

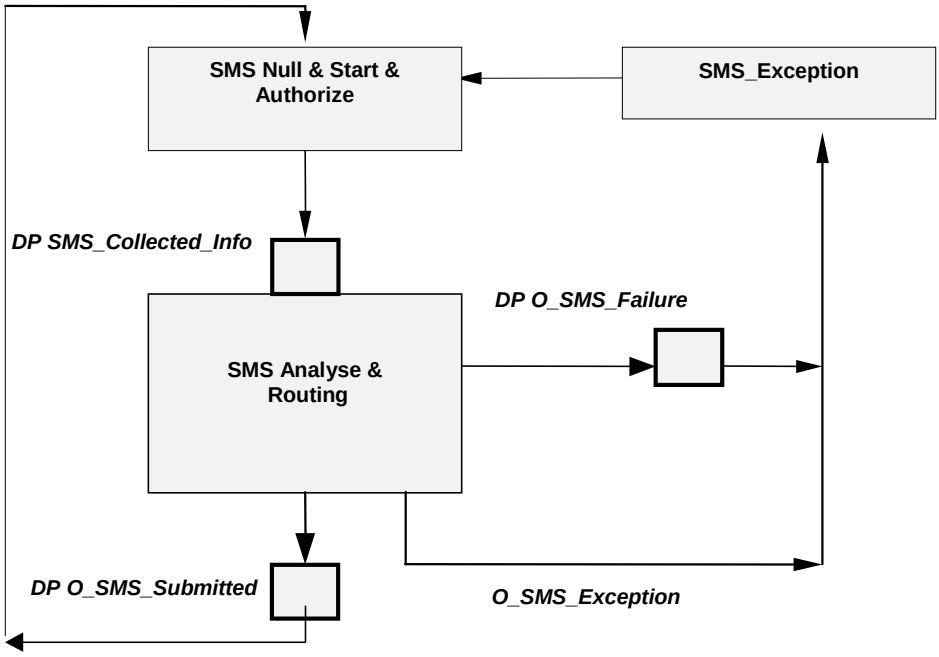

Figure 7.2: MO SMS State Model

Table 7.1: Description of MO SMS DPs in the MSC and SGSN

CAMEL Detection Point	DP Type	Description
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DP O_SMS_Failure	EDP-N, EDP-R	Indication that the SM submission to the Short Message Service Centre failed
DP O_SMS_Submitted	EDP-N, EDP-R	Indication that the SM has been successfully submitted to the Short Message Service Centre.

7.4.2.1.1 Description of the MO SMS state model (PIAs)

This subclause describes the state model for originating SMS transfer. For each PIA a description can be found of the entry events, actions and exit events.

7.4.2.1.1.1 SMS Null & Start & Authorize

Entry events:

- Previous MO SMS transfer to the SMSC completed (DP O_SMS_Submitted).
- Exception event is reported.

Actions:

- Interface is idled.
- Authentication.

- Ciphering.
- MO SMS subscription check.
- RP-MO-DATA message containing the User Data and the SMSC address is received from MS.
- The supplementary service "barring of all outgoing calls" is checked and invoked if necessary.
- The ODB category "barring of all outgoing calls" is checked and ODB is invoked if necessary.

Exit events:

- MO-SMS-CSI is analysed.
- An exception condition is encountered.

7.4.2.1.1.2 SMS Analyse & Routing

Entry events:

- MO-SMS - CSI is analysed (DP SMS_Collected_Info).

Actions:

- Information being analysed and/or translated to determine routeing address of the SMSC.
- Outgoing barring services and ODB categories not already applied are checked and invoked if necessary. If any of the barring services or ODB categories prevents the submission of the MO-SMS, then the MSC or SGSN shall generate the "O_SMS_Failure" event. The cause code to be used in that case shall be "sM-DeliveryFailure".
- The short message is sent to the SMSC.

Exit events:

- Acknowledge from the SMSC is received. (DP O_SMS_submitted).

  A positive acknowledgement is sent to the MS.
- An exception condition is encountered - this leads to the SMS_Exception PIA.

  A negative acknowledgement is sent to the MS.
- Attempt to select the route for the SMS fails (DP O_SMS_Failure).

  A negative acknowledgement is sent to the MS.
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  A negative acknowledgement is sent to the MS.

[CR editor's note: I have corrected the indentation in the above bulleted list.]

7.4.2.1.1.3 SMS_Exception

Entry events:

- An exception condition is encountered. In addition to specific examples listed above, exception events include any type of failure, which means that the normal exit events for a PIA cannot be met.

Actions:

- Default handling of the exception condition is applied. This includes general actions necessary to ensure that no resources remain inappropriately allocated such as:
  - If a relationship exists between the gsmSCF and gsmSSF or gprsSSF send an error information flow closing the relationship and indicating that any outstanding Short Message handling instructions will not run to completion.

- The MSC/gsmSSF or SGSN/gprsSSF shall make use of vendor-specific procedures to ensure release of internal resources.

Exit events:

- Default handling of the exception condition by MSC/gsmSSF or SGSN/gprsSSF completed.

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

3GPP TSG-CN WG2 Meeting #27 **Tdoc N2-021042**
Bangkok, Thailand, 11th - 15th November 2002

CHANGE REQUEST

⌘ **23.078** **CR** **510** ⌘ **rev** ⌘ Current version: **4.6.1** ⌘

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

Title:	⌘	Correction to interaction between MO-SMS and CB / ODB
Source:	⌘	Ericsson
Work item code:	⌘	CAMEL3 ***Date:*** ⌘ 11/11/2002
Category:	⌘	A ***Release:*** ⌘ Rel-4

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
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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: ⌘

When the MSC or SGSN handles the submission of an MO-SMS, then the conditional Call Barring (CB) and Operator Determined Barring (ODB) categories are checked after the smsSSF has given the control of the MO-SMS back to the MSC or SGSN.

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Summary of change: ⌘

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Clauses affected:	⌘	7.4.2			
		Y	**N**		
Other specs affected:	⌘		**X**	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

*** *First Modification* ***

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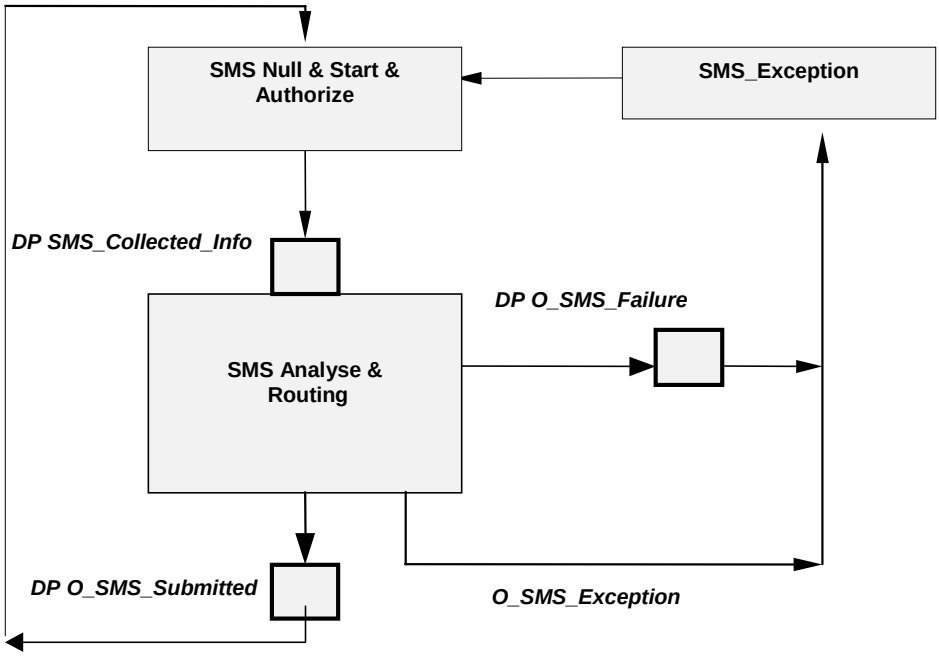

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****** End of Document ******