

3GPP TSG CN Plenary Meeting #23
10th – 12th March 2004 Phoenix, USA.

NP-040051

Source: TSG CN WG4
Title: Corrections on SCUDIF
Agenda item: 8.7
Document for: APPROVAL

Spec	CR	Rev	Doc-2nd-Level	Phase	Subject	Cat	Ver_C
23.018	134		N4-040024	Rel-5	Incorrect implementation of CR 133	F	5.8.0
23.018	135		N4-040025	Rel-6	Incorrect implementation of CR 133	A	6.1.0
29.002	719	1	N4-040339	Rel-5	Add new Unavailability cause for SCUDIF	F	5.8.0
29.002	720	1	N4-040340	Rel-6	Add new Unavailability cause for SCUDIF	A	6.4.0

CHANGE REQUEST

⌘ **23.018 CR 134** ⌘ rev **-** ⌘ Current version: **5.8.0** ⌘

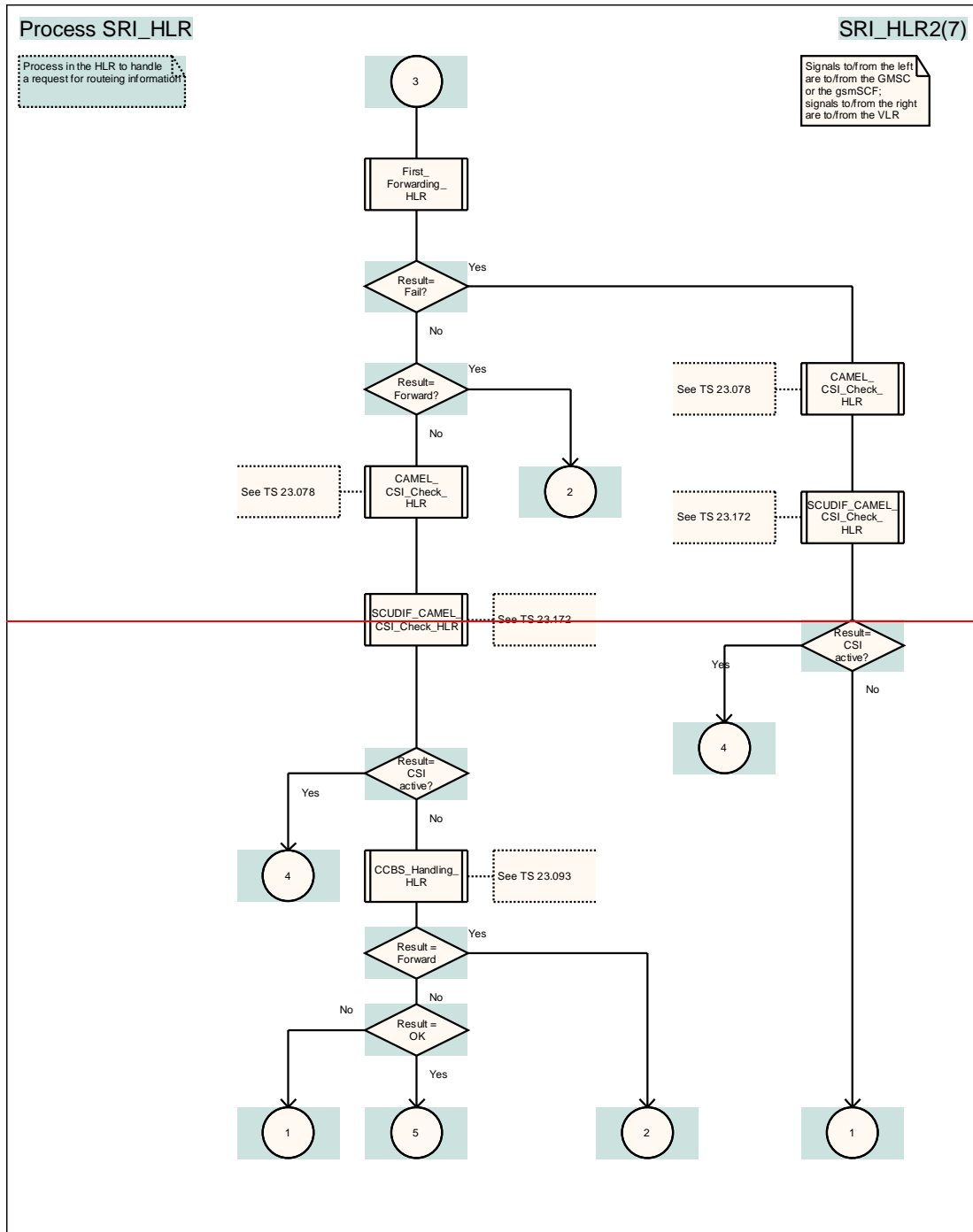
For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.

Proposed change affects: UICC apps ME Radio Access Network Core Network

Title:	⌘ Incorrect implementation of CR 133		
Source:	⌘ CN4		
Work item code:	⌘ SCUDIF	Date:	⌘ 22/01/2004
Category:	⌘ F	Release:	⌘ Rel-5
	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) Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		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) Rel-6 (Release 6)

Reason for change:	⌘ CR 133 (N4-031025) approved at CN#21 has not been correctly implemented		
Summary of change:	⌘ Remedy the incorrect implementation of CR 133 by replacing Figure 44c.		
Consequences if not approved:	⌘ Confusion		

Clauses affected:	⌘ Figure 44c										
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 20px;">Y</td> <td style="width: 20px;">N</td> </tr> <tr> <td style="width: 20px;"> </td> <td style="width: 20px;">X</td> </tr> <tr> <td style="width: 20px;"> </td> <td style="width: 20px;">X</td> </tr> <tr> <td style="width: 20px;"> </td> <td style="width: 20px;">X</td> </tr> </table> Other core specifications	Y	N		X		X		X	⌘	
Y	N										
	X										
	X										
	X										
Other comments:	⌘										



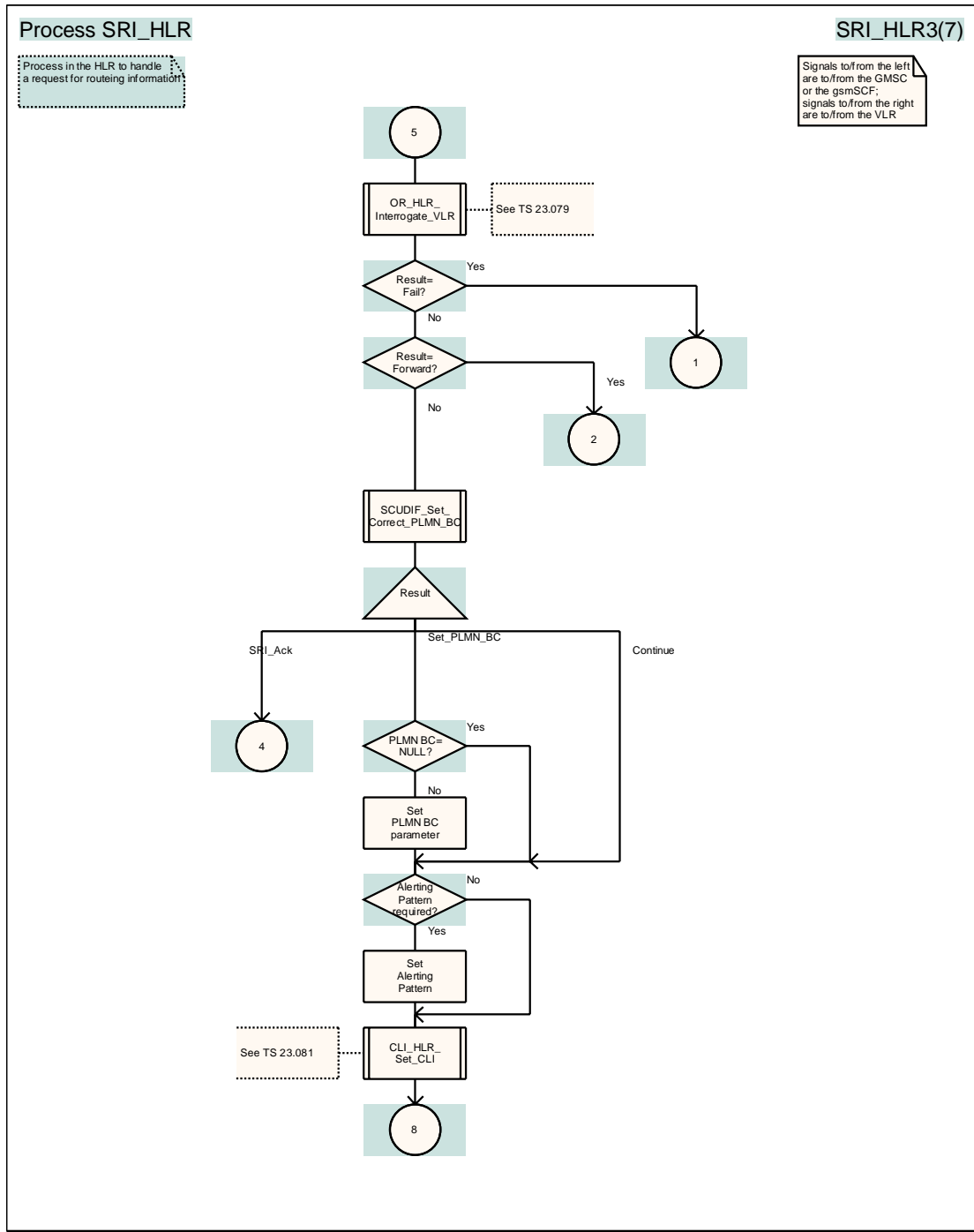


Figure 44c: Process SRI_HLR (sheet 3)

CHANGE REQUEST

⌘ **23.018 CR 135** ⌘ rev **-** ⌘ Current version: **6.1.0** ⌘

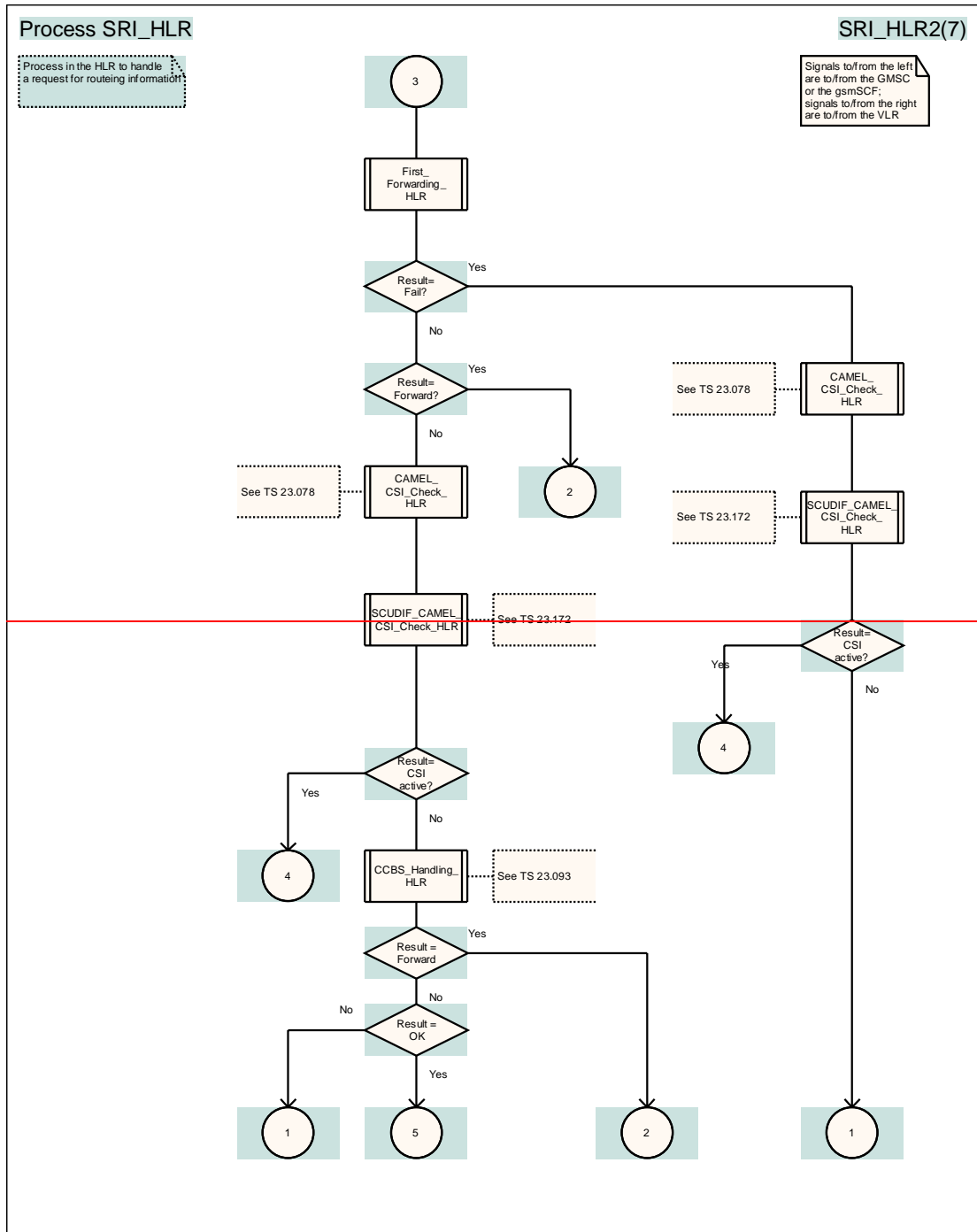
For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.

Proposed change affects: UICC apps ME Radio Access Network Core Network

Title:	⌘ Incorrect implementation of CR 133		
Source:	⌘ CN4		
Work item code:	⌘ SCUDIF	Date:	⌘ 22/01/2004
Category:	⌘ A	Release:	⌘ Rel-6
	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) Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		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) Rel-6 (Release 6)

Reason for change:	⌘ CR 133 (N4-031025) approved at CN#21 has not been correctly implemented		
Summary of change:	⌘ Remedy the incorrect implementation of CR 133 by replacing Figure 44c.		
Consequences if not approved:	⌘ Confusion		

Clauses affected:	⌘ Figure 44c										
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;">X</td> </tr> </table> Other core specifications	Y	N		X		X		X	⌘	
Y	N										
	X										
	X										
	X										
Other comments:	⌘										



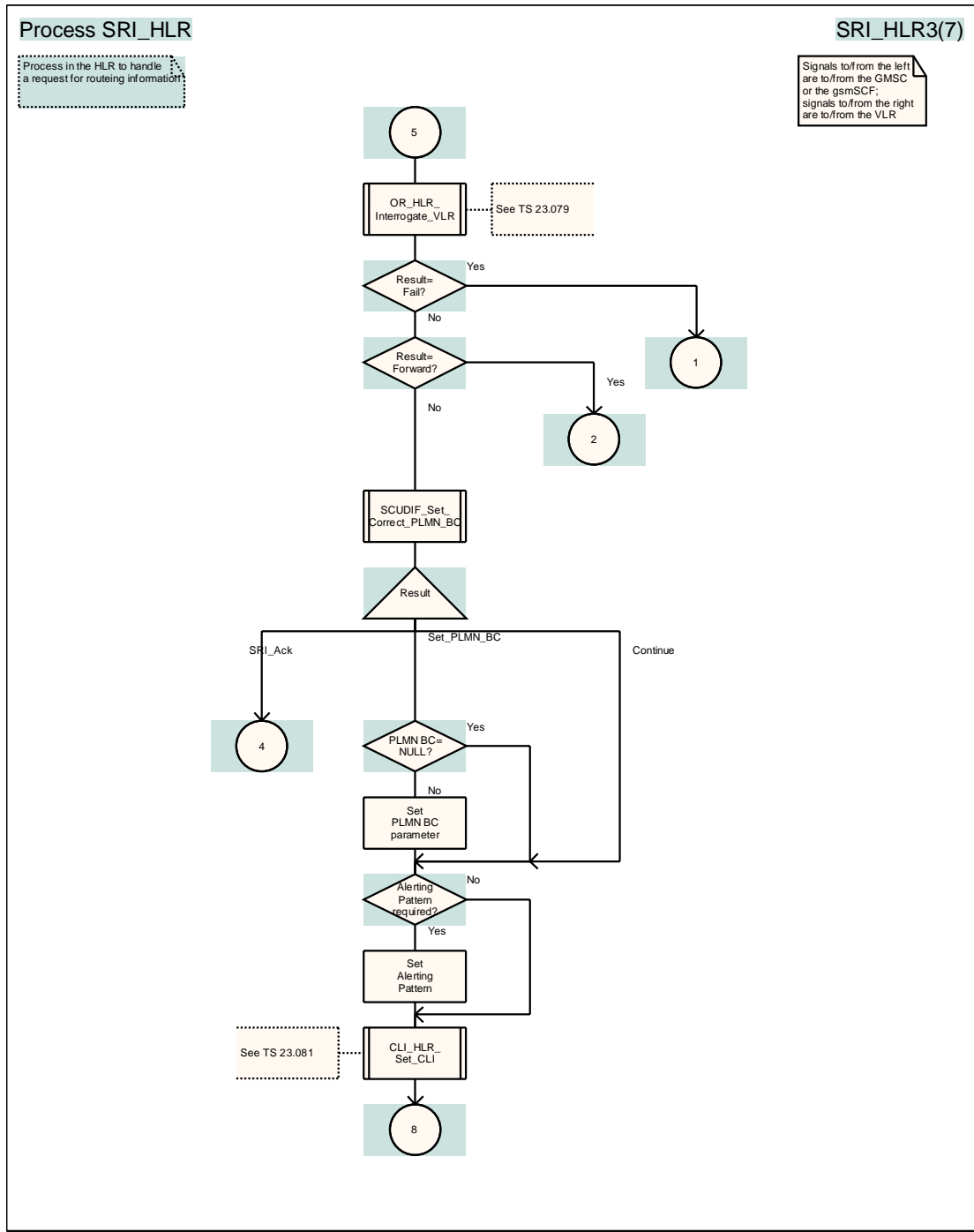


Figure 44c: Process SRI_HLR (sheet 3)

CHANGE REQUEST

⌘ **29.002 CR 719** ⌘ rev **1** ⌘ Current version: **5.8.0** ⌘

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:	⌘ Add new Unavailability cause for SCUDIF		
Source:	⌘ CN4		
Work item code:	⌘ TEI5	Date:	⌘ 19/02/2004
Category:	⌘ F	Release:	⌘ Rel-5
	Use <u>one</u> of the following categories:		Use <u>one</u> 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)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900 .	Rel-4	(Release 4)
		Rel-5	(Release 5)
		Rel-6	(Release 6)

Reason for change:	⌘ Unavailability Cause parameter was introduced in MAP-SEND-ROUTING-INFORMATION response message due to SCUDIF, to indicate the possible reason why a service is not available, when two services have been requested. According to functional specification for CUG service, each BSG is likely to have separate CUG subscription data in the HLR. So, it is possible that one of the services is unavailable due to CUG restriction. A separate Unavailability Cause is needed in such a case.
Summary of change:	⌘ Add new Unavailability Cause value.
Consequences if not approved:	⌘ The SCUDIF feature works vaguely in case of CUG. CUG service and SCUDIF feature interworking is not clearly defined causing confusion to implementors. Possibly different implementations will cause interworking problems between different vendor equipment.

Clauses affected:	⌘ 17.7.3						
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px;">Y</td> <td style="width: 20px;">N</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> </table>	Y	N	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Other core specifications	⌘
Y	N						
<input type="checkbox"/>	<input checked="" type="checkbox"/>						
	<input checked="" type="checkbox"/>	Test specifications					
	<input checked="" type="checkbox"/>	O&M Specifications					
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.

First modification

17.7.3 Call handling data types

```
MAP-CH-DataTypes {
    itu-t identified-organization (4) etsi (0) mobileDomain (0)
    gsm-Network (1) modules (3) map-CH-DataTypes (13) version8 (8)}

DEFINITIONS

IMPLICIT TAGS

 ::=

BEGIN

EXPORTS
    SendRoutingInfoArg,
    SendRoutingInfoRes,
    ProvideRoamingNumberArg,
    ProvideRoamingNumberRes,
    ResumeCallHandlingArg,
    ResumeCallHandlingRes,
    NumberOfForwarding,
    SuppressionOfAnnouncement,
    CallReferenceNumber,
    ProvideSIWFSNumberArg,
    ProvideSIWFSNumberRes,
    SIWFSSignallingModifyArg,
    SIWFSSignallingModifyRes,
    SetReportingStateArg,
    SetReportingStateRes,
    StatusReportArg,
    StatusReportRes,
    RemoteUserFreeArg,
    RemoteUserFreeRes,
    IST-AlertArg,
    IST-AlertRes,
    IST-CommandArg,
    IST-CommandRes
;

IMPORTS
    SubscriberInfo,
    SupportedCamelPhases,
    OfferedCamel4CSIs,
    CUG-Interlock,
    O-CSI,
    D-CSI,
    O-BcsmCamelTDPCriteriaList,
    T-BCSM-CAMEL-TDP-CriteriaList,
    IST-SupportIndicator,
    IST-AlertTimerValue,
    T-CSI,
    NumberPortabilityStatus

FROM MAP-MS-DataTypes {
    itu-t identified-organization (4) etsi (0) mobileDomain (0)
    gsm-Network (1) modules (3) map-MS-DataTypes (11) version8 (8)}

    ForwardingOptions,
    SS-List,
    CCBS-Feature
FROM MAP-SS-DataTypes {
    itu-t identified-organization (4) etsi (0) mobileDomain (0)
    gsm-Network (1) modules (3) map-SS-DataTypes (14) version8 (8)}

    ISDN-AddressString,
    ISDN-SubaddressString,
    FTN-AddressString,
    ExternalSignalInfo,
    Ext-ExternalSignalInfo,
    IMSI,
    LMSI,
    Ext-BasicServiceCode,
    AlertingPattern,
    NAEA-PreferredCI
FROM MAP-CommonDataTypes {
    itu-t identified-organization (4) etsi (0) mobileDomain (0)
    gsm-Network (1) modules (3) map-CommonDataTypes (18) version8 (8)}

    ExtensionContainer
```

```

FROM MAP-ExtensionDataTypes {
  itu-t identified-organization (4) etsi (0) mobileDomain (0)
  gsm-Network (1) modules (3) map-ExtensionDataTypes (21) version8 (8)}
;

```

CUG-CheckInfo ::= SEQUENCE {		
cug-Interlock	CUG-Interlock,	
cug-OutgoingAccess	NULL	OPTIONAL,
extensionContainer	ExtensionContainer	OPTIONAL,
...}		

NumberOfForwarding ::= INTEGER (1..5)
--

SendRoutingInfoArg ::= SEQUENCE {		
msisdN	[0] ISDN-AddressString,	
cug-CheckInfo	[1] CUG-CheckInfo	OPTIONAL,
numberOfForwarding	[2] NumberOfForwarding	OPTIONAL,
interrogationType	[3] InterrogationType,	
or-Interrogation	[4] NULL	OPTIONAL,
or-Capability	[5] OR-Phase	OPTIONAL,
gsmc-OrGsmSCF-Address	[6] ISDN-AddressString,	
callReferenceNumber	[7] CallReferenceNumber	OPTIONAL,
forwardingReason	[8] ForwardingReason	OPTIONAL,
basicServiceGroup	[9] Ext-BasicServiceCode	OPTIONAL,
networkSignalInfo	[10] ExternalSignalInfo	OPTIONAL,
camelInfo	[11] CamelInfo	OPTIONAL,
suppressionOfAnnouncement	[12] SuppressionOfAnnouncement	OPTIONAL,
extensionContainer	[13] ExtensionContainer	OPTIONAL,
...		
alertingPattern	[14] AlertingPattern	OPTIONAL,
ccbs-Call	[15] NULL	OPTIONAL,
supportedCCBS-Phase	[16] SupportedCCBS-Phase	OPTIONAL,
additionalSignalInfo	[17] Ext-ExternalSignalInfo	OPTIONAL,
istSupportIndicator	[18] IST-SupportIndicator	OPTIONAL,
pre-pagingSupported	[19] NULL	OPTIONAL,
callDiversionTreatmentIndicator	[20] CallDiversionTreatmentIndicator	OPTIONAL,
longFTN-Supported	[21] NULL	OPTIONAL,
suppress-VT-CSI	[22] NULL	OPTIONAL,
suppressIncomingCallBarring	[23] NULL	OPTIONAL,
gsmSCF-InitiatedCall	[24] NULL	OPTIONAL,
basicServiceGroup2	[25] Ext-BasicServiceCode	OPTIONAL,
networkSignalInfo2	[26] ExternalSignalInfo	OPTIONAL
}		

SuppressionOfAnnouncement ::= NULL

InterrogationType ::= ENUMERATED {
basicCall (0),
forwarding (1)}

OR-Phase ::= INTEGER (1..127)

CallReferenceNumber ::= OCTET STRING (SIZE (1..8))

ForwardingReason ::= ENUMERATED {
notReachable (0),
busy (1),
noReply (2)}

SupportedCCBS-Phase ::= INTEGER (1..127)
-- exception handling:
-- Only value 1 is used.
-- Values in the ranges 2-127 are reserved for future use.
-- If received values 2-127 shall be mapped on to value 1.

CallDiversionTreatmentIndicator ::= OCTET STRING (SIZE(1))
-- callDiversionAllowed (xxxx xx01)
-- callDiversionNotAllowed (xxxx xx10)
-- network default is call diversion allowed

```

SendRoutingInfoRes ::= [3] SEQUENCE {
  imsi                               [9] IMSI                               OPTIONAL,
  -- IMSI must be present if SendRoutingInfoRes is not segmented.
  -- If the TC-Result-NL segmentation option is taken the IMSI must be
  -- present in one segmented transmission of SendRoutingInfoRes.
  extendedRoutingInfo                ExtendedRoutingInfo                OPTIONAL,
  cug-CheckInfo                      [3] CUG-CheckInfo                OPTIONAL,
  cugSubscriptionFlag                [6] NULL                               OPTIONAL,
  subscriberInfo                     [7] SubscriberInfo                OPTIONAL,
  ss-List                             [1] SS-List                       OPTIONAL,
  basicService                        [5] Ext-BasicServiceCode          OPTIONAL,
  forwardingInterrogationRequired     [4] NULL                               OPTIONAL,
  vmsc-Address                        [2] ISDN-AddressString            OPTIONAL,
  extensionContainer                  [0] ExtensionContainer            OPTIONAL,
  ... ,
  naea-PreferredCI                   [10] NAEA-PreferredCI            OPTIONAL,
  -- naea-PreferredCI is included at the discretion of the HLR operator.
  ccbs-Indicators                    [11] CCBS-Indicators              OPTIONAL,
  msisdn                              [12] ISDN-AddressString            OPTIONAL,
  numberPortabilityStatus             [13] NumberPortabilityStatus      OPTIONAL,
  istAlertTimer                       [14] IST-AlertTimerValue          OPTIONAL,
  supportedCamelPhasesInVMSC          [15] SupportedCamelPhases          OPTIONAL,
  offeredCamel4CSIsInVMSC             [16] OfferedCamel4CSIs            OPTIONAL,
  routingInfo2                        [17] RoutingInfo                  OPTIONAL,
  ss-List2                             [18] SS-List                       OPTIONAL,
  basicService2                       [19] Ext-BasicServiceCode          OPTIONAL,
  allowedServices                     [20] AllowedServices              OPTIONAL,
  unavailabilityCause                 [21] UnavailabilityCause          OPTIONAL
}

```

```

AllowedServices ::= BIT STRING {
  firstServiceAllowed                 (0),
  secondServiceAllowed                (1)} (SIZE (2..8))
  -- firstService is the service indicated in the networkSignalInfo
  -- secondService is the service indicated in the networkSignalInfo2
  -- Other bits than listed above shall be discarded

```

```

UnavailabilityCause ::= ENUMERATED {
  bearerServiceNotProvisioned         (1),
  teleserviceNotProvisioned           (2),
  absentSubscriber                     (3),
  busySubscriber                       (4),
  callBarred                           (5),
  cug-Reject                          (x),
  ...}
  -- exception handling:
  -- Reception of other values than the ones listed shall result in the service
  -- being unavailable for that call.

```

```

CCBS-Indicators ::= SEQUENCE {
  ccbs-Possible                       [0] NULL                               OPTIONAL,
  keepCCBS-CallIndicator               [1] NULL                               OPTIONAL,
  extensionContainer                   [2] ExtensionContainer            OPTIONAL,
  ...}

```

Modification end

CHANGE REQUEST

⌘ **29.002 CR 720** ⌘ rev **1** ⌘ Current version: **6.4.0** ⌘

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:	⌘ Add new Unavailability cause for SCUDIF		
Source:	⌘ CN4		
Work item code:	⌘ TEI5	Date:	⌘ 19/02/2004
Category:	⌘ A	Release:	⌘ Rel-6
	Use <u>one</u> of the following categories:		Use <u>one</u> 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)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900 .	Rel-4	(Release 4)
		Rel-5	(Release 5)
		Rel-6	(Release 6)

Reason for change:	⌘ Unavailability Cause parameter was introduced in MAP-SEND-ROUTING-INFORMATION response message due to SCUDIF, to indicate the possible reason why a service is not available, when two services have been requested. According to functional specification for CUG service, each BSG is likely to have separate CUG subscription data in the HLR. So, it is possible that one of the services is unavailable due to CUG restriction. A separate Unavailability Cause is needed in such a case.
Summary of change:	⌘ Add new Unavailability Cause value.
Consequences if not approved:	⌘ The SCUDIF feature works vaguely in case of CUG. CUG service and SCUDIF feature interworking is not clearly defined causing confusion to implementors. Possibly different implementations will cause interworking problems between different vendor equipment.

Clauses affected:	⌘ 17.7.3						
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px;">Y</td> <td style="width: 20px;">N</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> </table>	Y	N	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Other core specifications	⌘
Y	N						
<input type="checkbox"/>	<input checked="" type="checkbox"/>						
	<input checked="" type="checkbox"/>	Test specifications					
	<input checked="" type="checkbox"/>	O&M Specifications					
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.

First modification

17.7.3 Call handling data types

```

MAP-CH-DataTypes {
    itu-t identified-organization (4) etsi (0) mobileDomain (0)
    gsm-Network (1) modules (3) map-CH-DataTypes (13) version9 (9)}

DEFINITIONS

IMPLICIT TAGS

 ::=

BEGIN

EXPORTS
    SendRoutingInfoArg,
    SendRoutingInfoRes,
    ProvideRoamingNumberArg,
    ProvideRoamingNumberRes,
    ResumeCallHandlingArg,
    ResumeCallHandlingRes,
    NumberOfForwarding,
    SuppressionOfAnnouncement,
    CallReferenceNumber,
    SetReportingStateArg,
    SetReportingStateRes,
    StatusReportArg,
    StatusReportRes,
    RemoteUserFreeArg,
    RemoteUserFreeRes,
    IST-AlertArg,
    IST-AlertRes,
    IST-CommandArg,
    IST-CommandRes
;

IMPORTS
    SubscriberInfo,
    SupportedCamelPhases,
    OfferedCamel4CSIs,
    CUG-Interlock,
    O-CSI,
    D-CSI,
    O-BcsmCamelTDPCriteriaList,
    T-BCSM-CAMEL-TDP-CriteriaList,
    IST-SupportIndicator,
    IST-AlertTimerValue,
    T-CSI,
    NumberPortabilityStatus
FROM MAP-MS-DataTypes {
    itu-t identified-organization (4) etsi (0) mobileDomain (0)
    gsm-Network (1) modules (3) map-MS-DataTypes (11) version9 (9)}

    ForwardingOptions,
    SS-List,
    CCBS-Feature
FROM MAP-SS-DataTypes {
    itu-t identified-organization (4) etsi (0) mobileDomain (0)
    gsm-Network (1) modules (3) map-SS-DataTypes (14) version9 (9)}

    ISDN-AddressString,
    ISDN-SubaddressString,
    FTN-AddressString,
    ExternalSignalInfo,
    Ext-ExternalSignalInfo,
    IMSI,
    LMSI,
    Ext-BasicServiceCode,
    AlertingPattern,
    NAEA-PreferredCI
FROM MAP-CommonDataTypes {
    itu-t identified-organization (4) etsi (0) mobileDomain (0)
    gsm-Network (1) modules (3) map-CommonDataTypes (18) version9 (9)}

    ExtensionContainer
FROM MAP-ExtensionDataTypes {
    itu-t identified-organization (4) etsi (0) mobileDomain (0)
    gsm-Network (1) modules (3) map-ExtensionDataTypes (21) version9 (9)}
;

```

```

CUG-CheckInfo ::= SEQUENCE {
    cug-Interlock          CUG-Interlock,
    cug-OutgoingAccess     NULL,
    extensionContainer     ExtensionContainer
    ...}

```

```

NumberOfForwarding ::= INTEGER (1..5)

```

```

SendRoutingInfoArg ::= SEQUENCE {
    msisdn                 [0] ISDN-AddressString,
    cug-CheckInfo          [1] CUG-CheckInfo OPTIONAL,
    numberOfForwarding     [2] NumberOfForwarding OPTIONAL,
    interrogationType      [3] InterrogationType,
    or-Interrogation       [4] NULL OPTIONAL,
    or-Capability          [5] OR-Phase OPTIONAL,
    gsmc-OrGsmSCF-Address [6] ISDN-AddressString,
    callReferenceNumber    [7] CallReferenceNumber OPTIONAL,
    forwardingReason       [8] ForwardingReason OPTIONAL,
    basicServiceGroup      [9] Ext-BasicServiceCode OPTIONAL,
    networkSignalInfo      [10] ExternalSignalInfo OPTIONAL,
    camelInfo              [11] CamelInfo OPTIONAL,
    suppressionOfAnnouncement [12] SuppressionOfAnnouncement OPTIONAL,
    extensionContainer      [13] ExtensionContainer OPTIONAL,
    ...,
    alertingPattern        [14] AlertingPattern OPTIONAL,
    ccbs-Call              [15] NULL OPTIONAL,
    supportedCCBS-Phase    [16] SupportedCCBS-Phase OPTIONAL,
    additionalSignalInfo   [17] Ext-ExternalSignalInfo OPTIONAL,
    istSupportIndicator     [18] IST-SupportIndicator OPTIONAL,
    pre-pagingSupported    [19] NULL OPTIONAL,
    callDiversionTreatmentIndicator [20] CallDiversionTreatmentIndicator OPTIONAL,
    longFTN-Supported      [21] NULL OPTIONAL,
    suppress-VT-CSI        [22] NULL OPTIONAL,
    suppressIncomingCallBarring [23] NULL OPTIONAL,
    gsmSCF-InitiatedCall   [24] NULL OPTIONAL,
    basicServiceGroup2     [25] Ext-BasicServiceCode OPTIONAL,
    networkSignalInfo2     [26] ExternalSignalInfo OPTIONAL
}

```

```

SuppressionOfAnnouncement ::= NULL

```

```

InterrogationType ::= ENUMERATED {
    basicCall (0),
    forwarding (1)}

```

```

OR-Phase ::= INTEGER (1..127)

```

```

CallReferenceNumber ::= OCTET STRING (SIZE (1..8))

```

```

ForwardingReason ::= ENUMERATED {
    notReachable (0),
    busy (1),
    noReply (2)}

```

```

SupportedCCBS-Phase ::= INTEGER (1..127)
-- exception handling:
-- Only value 1 is used.
-- Values in the ranges 2-127 are reserved for future use.
-- If received values 2-127 shall be mapped on to value 1.

```

```

CallDiversionTreatmentIndicator ::= OCTET STRING (SIZE(1))
-- callDiversionAllowed (xxxx xx01)
-- callDiversionNotAllowed (xxxx xx10)
-- network default is call diversion allowed

```



```

SendRoutingInfoRes ::= [3] SEQUENCE {
  imsi                               [9] IMSI                               OPTIONAL,
  -- IMSI must be present if SendRoutingInfoRes is not segmented.
  -- If the TC-Result-NL segmentation option is taken the IMSI must be
  -- present in one segmented transmission of SendRoutingInfoRes.
  extendedRoutingInfo                ExtendedRoutingInfo                OPTIONAL,
  cug-CheckInfo                       [3] CUG-CheckInfo                OPTIONAL,
  cugSubscriptionFlag                 [6] NULL                               OPTIONAL,
  subscriberInfo                      [7] SubscriberInfo                OPTIONAL,
  ss-List                             [1] SS-List                          OPTIONAL,
  basicService                        [5] Ext-BasicServiceCode          OPTIONAL,
  forwardingInterrogationRequired     [4] NULL                               OPTIONAL,
  vmsc-Address                        [2] ISDN-AddressString            OPTIONAL,
  extensionContainer                  [0] ExtensionContainer            OPTIONAL,
  ... ,
  naea-PreferredCI                    [10] NAEA-PreferredCI            OPTIONAL,
  -- naea-PreferredCI is included at the discretion of the HLR operator.
  ccbs-Indicators                     [11] CCBS-Indicators              OPTIONAL,
  msisdn                              [12] ISDN-AddressString            OPTIONAL,
  numberPortabilityStatus             [13] NumberPortabilityStatus      OPTIONAL,
  istAlertTimer                       [14] IST-AlertTimerValue          OPTIONAL,
  supportedCamelPhasesInVMSC          [15] SupportedCamelPhases         OPTIONAL,
  offeredCamel4CSIsInVMSC            [16] OfferedCamel4CSIs           OPTIONAL,
  routingInfo2                        [17] RoutingInfo                  OPTIONAL,
  ss-List2                            [18] SS-List                          OPTIONAL,
  basicService2                       [19] Ext-BasicServiceCode          OPTIONAL,
  allowedServices                     [20] AllowedServices              OPTIONAL,
  unavailabilityCause                 [21] UnavailabilityCause          OPTIONAL
}

```

```

AllowedServices ::= BIT STRING {
  firstServiceAllowed                 (0),
  secondServiceAllowed                (1) } (SIZE (2..8))
  -- firstService is the service indicated in the networkSignalInfo
  -- secondService is the service indicated in the networkSignalInfo2
  -- Other bits than listed above shall be discarded

```

```

UnavailabilityCause ::= ENUMERATED {
  bearerServiceNotProvisioned         (1),
  teleserviceNotProvisioned           (2),
  absentSubscriber                     (3),
  busySubscriber                       (4),
  callBarred                           (5),
  cug-Reject                          (x),
  ...}
  -- exception handling:
  -- Reception of other values than the ones listed shall result in the service
  -- being unavailable for that call.

```

```

CCBS-Indicators ::= SEQUENCE {
  ccbs-Possible                       [0] NULL                               OPTIONAL,
  keepCCBS-CallIndicator               [1] NULL                               OPTIONAL,
  extensionContainer                   [2] ExtensionContainer            OPTIONAL,
  ...}

```

Modification end