Source:	TSG CN WG2
Title:	CRs on R99 Work Item CAMEL3, CR Pack 2
Agenda item:	7.1
Document for:	APPROVAL

Introduction:

This document contains 3 CRs on R99 WI CAMEL3 and corresponding mirror CRs for Rel-4/Rel-5. 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	487	1	N2-021036	R99	Number comparison for D-CSI	F	3.14.0
23.078	488	1	N2-021037	Rel-4	Number comparison for D-CSI	A	4.6.1
23.078	489	1	N2-021038	Rel-5	Number comparison for D-CSI	A	5.1.0
23.078	508	1	N2-021056	R99	Correction to Dialled Services criteria	F	3.14.0
23.078	511		N2-021057	Rel-4	Correction to Dialled Services criteria	A	4.6.1
23.078	512		N2-021058	Rel-5	Correction to Dialled Services criteria	A	5.1.0
23.078	498	3	N2-021087	R99	Clarification on ATM -> NSDC when status of one SS impacts another SS status	F	3.14.0
23.078	506	2	N2-021088	Rel-4	Clarification on ATM -> NSDC when status of one SS impacts another SS status	A	4.6.1
23.078	507	2	N2-021089	Rel-5	Clarification on ATM -> NSDC when status of one SS impacts another SS status	A	5.1.0

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CHANGE REQUEST

⌘	**23.078 CR** ⌘ 487	⌘ **rev** 1	⌘ Current version: **3.14.0** ⌘

*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 **X**

Title: ⌘	Number comparison for D-CSI	
Source: ⌘	ALCATEL	
Work item code:⌘	CAMEL3	**Date:** ⌘ 11/11/2002
Category: ⌘	**F** Essential correction	**Release:** ⌘ R99

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 <u>TR 21.900</u>.

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: ⌘	In the TS 23.078 in the procedure performed for the comparison of the destination number triggering criterion and the address information, it is unclear whether the modification of number has to be done on the address information and on destination number triggering criterion or only on the address information.
Summary of change:⌘	The modification of number has to be done on the address information and on the destination number triggering criterion as well.
Consequences if not approved: ⌘	Many interpretations may be done by different providers and may lead to unpredictable behaviour. So the subscriber will not have their subscribed IN services in roaming cases.

Clauses affected: ⌘	§ 4.2.1.2.2.3

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

Other comments: ⌘	

— **For information**—

4.2.1.2.2 Criteria at DP Analysed_Information

4.2.1.2.2.1 General

The criteria for a mobile originating call are checked in the originating MSC. The criteria for a mobile forwarded call are checked in the forwarding MSC.

For early forwarded calls in the GMSC, the HLR shall always include the trigger criteria in the subscriber data sent to the GMSC. Reason is that the HLR can not check the criteria applicable at DP Analysed Info, since the number that the criteria check shall be based on, may be modified by a Mobile Terminating or Mobile Forwarding Service Logic for this call.

For optimally routed late forwarded calls, the MSC shall always include the trigger criteria in the RCH message sent to the GMSC. Reason is that the MSC can not check the criteria applicable at DP Analysed Info, since the number that the criteria check shall be based on, may be modified by a Mobile Terminating or Mobile Forwarding Service Logic for this call.

The following criteria are applicable for DP Analysed_Information:

- Destination number triggering criterion: The HLR may store a list of up to 10 destination numbers. There is no restriction on the nature of address. There is no restriction on the numbering plan indicator.

For MO calls, triggering at DP Analysed_Info shall be based on the called party number received over the access network or the Destination Routing Address in the Connect operation from the gsmSCF during a Mobile Originating CAMEL Service.

For MF calls at the VMSC, triggering at DP Analysed_Info shall be based on the number received over the access network (the Deflected-to-Number in case of Call Deflection), the Forwarded-to-Number retained in the VLR, or the Destination Routing Address in the Connect operation from the gsmSCF during a Mobile Terminated or Mobile Forwarded CAMEL Service.

For MF calls at the GMSC, triggering at DP Analysed_Info shall be based on the Forwarded-to-Number received from HLR, on the Destination Routing Address received in the Connect operation from gsmSCF during a Mobile Terminated or Mobile Forwarded CAMEL Service, or on the Forwarded-to-Number received in the RCH message.

4.2.1.2.2.2 Removal of information significant to the serving entity

In order to decide whether triggering shall take place, the trigger criteria need to be compared with the address information. Before the comparison takes place the following information shall be removed from the destination address information:

- Operator specific service selection information that is recognised and treated locally in the serving entity. This shall not lead to a change of the type of number indicator of the address information.

- Carrier selection information. If the removal of carrier selection information also removes international or national (trunk) prefixes (depending on regulatory requirements), then the type of number indicator of the address information shall be changed to "international number" or "national (significant) number" respectively. Otherwise the type of number indicator shall remain unchanged.

The address information in a subsequent Initial DP message at DP Analysed_Info shall not contain the removed information, however in the further call handling the serving entity shall invoke the requested services (e.g. carrier selection).

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— modified section—

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4.2.1.2.2.3 Number comparison

The following procedure shall be performed for the comparison of the destination number triggering criterion and the address information in the given order.

1. The numbering plan indicators of both numbers are ignored.

2. The type of number/nature of address indicators of both numbers are compared. If there is a match of the type of number indicator, then the check shall be performed by comparing the digits as defined in step 6. If there is no match of the type of number the comparison procedure shall continue as follows.

3. If either or both of the address information and destination number triggering criterion includes If there are other a type of number/nature of address indicators present other than "unknown", "national (significant) number" or "international number" then the destination number does not match the destination number triggering criterion. Otherwise the comparison procedure shall continue as follows.

4. If there is a number (address information or destination number triggering criterion) with type of number/nature of address "unknown" this number shall be translated based on the numbering plan of the serving entity in either of the following ways:

   - if the leading digits refer to an international prefix, those digits shall be removed and the type of number/nature of address shall be set to "international number".

   - if the leading digits refer to a national (trunk) prefix, those digits shall be removed and the type of number/nature of address shall be set to "national (significant) number".

   If the leading digits refer neither to an international prefix nor to a national (trunk) prefix, then the destination number does not match the destination number triggering criterion.

   If there is a match of the type of number/nature of address indicator after this number modification, then the check shall be performed by comparing the digits as defined in step 6, otherwise the comparison procedure shall continue as follows.

5. If there is a number withthe type of number/nature of address of the address information or of the destination number triggering criterion is "national (significant) number" this number shall be translated based on the numbering plan of the serving entity to international format by adding the country code of the serving entity to the number string. After this modification both numbers shall be in international format and shall be checked by comparing the digits as defined in step 6.

6 If the number digits of the address information are compared with the number digits of the destination number triggering criterion, then there is a match if:

   - the destination number is at least as long as the destination number string of the destination number triggering criterion; and

   - all the digits in the destination number string of the destination number triggering criterion match the leading digits of the destination number.

The check described in this clause shall be repeated for every number contained in the destination number triggering criterion of the D-CSI until a match is recognised and DP Analysed_Info is triggered, or until all the destination numbers have been checked without a match being recognised. In the latter case DP Analysed_Info is not triggered.

The procedures for the destination number triggering criterion check for the N-CSI are network specific.

The modifications of the address information described in this clause shall be only be done for comparison purposes, i.e. they shall not affect the format of the destination address information sent in the Initial DP message.

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CHANGE REQUEST

⌘	**23.078 CR** 488	⌘ **rev** **1** ⌘	Current version:	**4.6.1**	⌘

*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 **X**

Title: ⌘	Number comparison for D-CSI	
Source: ⌘	ALCATEL	
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),*
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: ⌘	In the TS 23.078 in the procedure performed for the comparison of the destination number triggering criterion and the address information, it is unclear whether the modification of number has to be done on the address information and on destination number triggering criterion or only on the address information.
Summary of change:⌘	The modification of number has to be done on the address information and on the destination number triggering criterion as well.
Consequences if not approved: ⌘	Many interpretations may be done by different providers and may lead to unpredictable behaviour So the subscriber will not have their subscribed IN services in roaming cases.

Clauses affected: ⌘	§ 4.2.1.2.2.3

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

Other comments: ⌘	

— **For information**—

4.2.1.2.2 Criteria at DP Analysed_Information

4.2.1.2.2.1 General

The criteria for a mobile originating call are checked in the originating MSC. The criteria for a mobile forwarded call are checked in the forwarding MSC.

For early forwarded calls in the GMSC, the HLR shall always include the trigger criteria in the subscriber data sent to the GMSC. Reason is that the HLR can not check the criteria applicable at DP Analysed Info, since the number that the criteria check shall be based on, may be modified by a Mobile Terminating or Mobile Forwarding Service Logic for this call.

For optimally routed late forwarded calls, the MSC shall always include the trigger criteria in the RCH message sent to the GMSC. Reason is that the MSC can not check the criteria applicable at DP Analysed Info, since the number that the criteria check shall be based on, may be modified by a Mobile Terminating or Mobile Forwarding Service Logic for this call.

The following criteria are applicable for DP Analysed_Information:

- Destination number triggering criterion: The HLR may store a list of up to 10 destination numbers. There is no restriction on the nature of address. There is no restriction on the numbering plan indicator.

For MO calls, triggering at DP Analysed_Info shall be based on the called party number received over the access network or the Destination Routing Address in the Connect operation from the gsmSCF during a Mobile Originating CAMEL Service.

For MF calls at the VMSC, triggering at DP Analysed_Info shall be based on the number received over the access network (the Deflected-to-Number in case of Call Deflection), the Forwarded-to-Number retained in the VLR, or the Destination Routing Address in the Connect operation from the gsmSCF during a Mobile Terminated or Mobile Forwarded CAMEL Service.

For MF calls at the GMSC, triggering at DP Analysed_Info shall be based on the Forwarded-to-Number received from HLR, on the Destination Routing Address received in the Connect operation from gsmSCF during a Mobile Terminated or Mobile Forwarded CAMEL Service, or on the Forwarded-to-Number received in the RCH message.

4.2.1.2.2.2 Removal of information significant to the serving entity

In order to decide whether triggering shall take place, the trigger criteria need to be compared with the address information. Before the comparison takes place the following information shall be removed from the destination address information:

- Operator specific service selection information that is recognised and treated locally in the serving entity. This shall not lead to a change of the type of number indicator of the address information.

- Carrier selection information. If the removal of carrier selection information also removes international or national (trunk) prefixes (depending on regulatory requirements), then the type of number indicator of the address information shall be changed to "international number" or "national (significant) number" respectively. Otherwise the type of number indicator shall remain unchanged.

The address information in a subsequent Initial DP message at DP Analysed_Info shall not contain the removed information, however in the further call handling the serving entity shall invoke the requested services (e.g. carrier selection).

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4.2.1.2.2.3   Number comparison

The following procedure shall be performed for the comparison of the destination number triggering criterion and the address information in the given order.

1. The numbering plan indicators of both numbers are ignored.

2. The type of number/nature of address indicators of both numbers are compared. If there is a match of the type of number indicator, then the check shall be performed by comparing the digits as defined in step 6. If there is no match of the type of number the comparison procedure shall continue as follows.

3. If either or both of the address information and destination number triggering criterion includes If there are other a type of number/nature of address indicators present other than "unknown", "national (significant) number" or "international number" then the destination number does not match the destination number triggering criterion. Otherwise the comparison procedure shall continue as follows.

4. If there is a number (address information or destination number triggering criterion) with type of number/nature of address "unknown" this number shall be translated based on the numbering plan of the serving entity in either of the following ways:

    -   if the leading digits refer to an international prefix, those digits shall be removed and the type of number/nature of address shall be set to "international number".

    -   if the leading digits refer to a national (trunk) prefix, those digits shall be removed and the type of number/nature of address shall be set to "national (significant) number".

    If the leading digits refer neither to an international prefix nor to a national (trunk) prefix, then the destination number does not match the destination number triggering criterion.

    If there is a match of the type of number/nature of address indicator after this number modification, then the check shall be performed by comparing the digits as defined in step 6, otherwise the comparison procedure shall continue as follows.

5. If there is a number withthe type of number/nature of address of the address information or of the destination number triggering criterion is "national (significant) number" this number shall be translated based on the numbering plan of the serving entity to international format by adding the country code of the serving entity to the number string. After this modification both numbers shall be in international format and shall be checked by comparing the digits as defined in step 6.

6   If the number digits of the address information are compared with the number digits of the destination number triggering criterion, then there is a match if:

    -   the destination number is at least as long as the destination number string of the destination number triggering criterion; and

    -   all the digits in the destination number string of the destination number triggering criterion match the leading digits of the destination number.

The check described in this clause shall be repeated for every number contained in the destination number triggering criterion of the D-CSI until a match is recognised and DP Analysed_Info is triggered, or until all the destination numbers have been checked without a match being recognised. In the latter case DP Analysed_Info is not triggered.

The procedures for the destination number triggering criterion check for the N-CSI are network specific.

The modifications of the address information described in this clause shall be only be done for comparison purposes, i.e. they shall not affect the format of the destination address information sent in the Initial DP message.

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CHANGE REQUEST

| ⌘ | **23.078 CR** ⌘ 489 | ⌘ **rev** | **1** | ⌘ | Current version: | **5.1.0** | ⌘ |

*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 **X**

Title: ⌘	Number comparison for D-CSI	
Source: ⌘	ALCATEL	
Work item code: ⌘	CAMEL3	***Date:*** ⌘ 11/11/2002
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)*
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: ⌘	In the TS 23.078 in the procedure performed for the comparison of the destination number triggering criterion and the address information, it is unclear whether the modification of number has to be done on the address information and on destination number triggering criterion or only on the address information.
Summary of change: ⌘	The modification of number has to be done on the address information and on the destination number triggering criterion as well.
Consequences if not approved: ⌘	Many interpretations may be done by different providers and may lead to unpredictable behaviour So the subscriber will not have their subscribed IN services in roaming cases.

Clauses affected: ⌘	§ 4.2.1.2.2.3

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

Other comments: ⌘	

— For information—

4.2.1.2.2   Criteria at DP Analysed_Information

4.2.1.2.2.1   General

The criteria for a mobile originating call are checked in the originating MSC. The criteria for a mobile forwarded call are checked in the forwarding MSC.

For early forwarded calls in the GMSC, the HLR shall always include the trigger criteria in the subscriber data sent to the GMSC because that the HLR can not check the criteria applicable at DP Analysed_Info, since the number that the criteria check shall be based on, may be modified by a Mobile Terminating or Mobile Forwarding Service Logic for this call.

For optimally routed late forwarded calls, the MSC shall always include the trigger criteria in the Resume Call Handling information flow sent to the GMSC because the MSC can not check the criteria applicable at DP Analysed_Info, since the number that the criteria check shall be based on, may be modified by a Mobile Terminating or Mobile Forwarding Service Logic for this call.

The following criteria are applicable for DP Analysed_Information:

- Destination number triggering criterion: The HLR may store a list of up to 10 destination numbers. There is no restriction on the nature of address. There is no restriction on the numbering plan indicator.

For MO calls, triggering at DP Analysed_Info shall be based on the called party number received over the access network or the Destination Routing Address in the Connect information flow from the gsmSCF during a Mobile Originating CAMEL Service.

For MF calls at the VMSC, triggering at DP Analysed_Info shall be based on the number received over the access network (the Deflected-to-Number in the case of Call Deflection), the Forwarded-to-Number retained in the VLR, or the Destination Routing Address in the Connect information flow from the gsmSCF during a Mobile Terminated or Mobile Forwarded CAMEL Service.

For MF calls at the GMSC, triggering at DP Analysed_Info shall be based on the Forwarded-to-Number received from the HLR, on the Destination Routing Address received in the Connect information flow from gsmSCF during a Mobile Terminated or Mobile Forwarded CAMEL Service, or on the Forwarded-to-Number received in the Resume Call Handling information flow.

4.2.1.2.2.2   Removal of information significant to the serving entity

In order to decide whether triggering shall take place, the trigger criteria need to be compared with the address information. Before the comparison takes place the following information shall be removed from the destination address information:

- Operator specific service selection information that is recognised and treated locally in the serving entity. This shall not lead to a change of the type of number indicator of the address information.

- Carrier selection information. If the removal of carrier selection information also removes international or national (trunk) prefixes (depending on regulatory requirements), then the type of number indicator of the address information shall be changed to "international number" or "national (significant) number" respectively. Otherwise the type of number indicator shall remain unchanged.

The address information in a subsequent Initial DP information flow at DP Analysed_Info shall not contain the removed information, however in the further call handling the serving entity shall invoke the requested services (e.g. carrier selection).

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4.2.1.2.2.3   Number comparison

The following procedure shall be performed for the comparison of the destination number triggering criterion and the address information in the given order.

1. The numbering plan indicators of the destination number triggering criterion and the destination number are ignored.

2. The type of number/nature of address indicators of the destination number triggering criterion and the destination number are compared. If there is a match of the type of number indicator, then the check shall be performed by comparing the digits as defined in step 6. If there is no match of the type of number the comparison procedure shall continue as follows.

3. If either or both of the address information and destination number triggering criterion includes ~~If there are other~~ a type of number/nature of address indicators ~~present~~ other than "unknown", "national (significant) number" or "international number" then the destination number does not match the destination number triggering criterion. Otherwise the comparison procedure shall continue as follows.

4. If there is a number (address information or destination number triggering criterion) with type of number/nature of address "unknown" this number shall be translated based on the numbering plan of the serving entity in either of the following ways:

   - if the leading digits refer to an international prefix, those digits shall be removed and the type of number/nature of address shall be set to "international number".

   - if the leading digits refer to a national (trunk) prefix, those digits shall be removed and the type of number/nature of address shall be set to "national (significant) number".

   If the leading digits refer neither to an international prefix nor to a national (trunk) prefix, then the destination number does not match the destination number triggering criterion.

   If there is a match of the type of number/nature of address indicator after this number modification, then the check shall be performed by comparing the digits as defined in step 6, otherwise the comparison procedure shall continue as follows.

5. If ~~there is a number with~~the type of number/nature of address of the address information or of the destination number triggering criterion is "national (significant) number" this number shall be translated based on the numbering plan of the serving entity to international format by adding the country code of the serving entity to the number string. After this modification both numbers shall be in international format and shall be checked by comparing the digits as defined in step 6.

6 If the number digits of the address information are compared with the number digits of the destination number triggering criterion, then there is a match if:

   - the destination number is at least as long as the destination number string of the destination number triggering criterion; and

   - all the digits in the destination number string of the destination number triggering criterion match the leading digits of the destination number.

The check described in this subclause shall be repeated for every number contained in the destination number triggering criterion of the D-CSI until there is a match DP Analysed_Info is triggered, or until all the destination numbers have been checked without a match. In the latter case DP Analysed_Info is not triggered.

The procedures for the destination number triggering criterion check for N-CSI are network specific.

The modifications of the address information described in this subclause shall only be done for comparison purposes, i.e. they shall not affect the format of the destination address information sent in the Initial DP information flow.

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CHANGE REQUEST

⌘	**23.078** CR **508**	⌘ **rev**	**1**	⌘	Current version:	**3.14.0** ⌘

*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 **X**

Title: ⌘	Correction to Dialled Services criteria	
Source: ⌘	T-Mobile Deutschland	
Work item code: ⌘	CAMEL3	***Date:*** ⌘ 13/11/2002

Category: ⌘ **F** **Essential correction**	***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)*
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: ⌘	In the last two CN2 meetings, there were several discussions on the order in which the individual Dialled Service criteria (in D-CSI) shall be checked by the MSC or GMSC.

It was recognized that the order in which the criteria are checked may affect the outcome of the check. Example:

criterion 1 = 0800   [Service 1]
criterion 2 = 0800123 [Service 2]

or

criterion 1 = 0800123 [Service 2]
criterion 2 = 0800   [Service 1]

When the subscriber dials "0800123", then this will lead to different results. In the former case, 0800123 will result in Service 1 being triggered. In the latter case, 0800123 will result in Service 2 being triggered.

However, CN2 also recognized that mandating an order in which the criteria shall be checked will have an impact on existing implementations. The topic was not regarded as being critical enough to justify such an impact.

To mandate such an order only in a later release (i.e. Rel. 5) would lead to backwards incompatibility, at least for some existing implementations.

Therefore, in the CN2 #26 meeting CN2 decided that no specific order shall be mandated for the number criteria check. However, a health warning should be |

| | added, in order to avoid the usage of overlapping number criteria.

The present CR provides this health warning. |
|---|---|
| ***Summary of change:*** ⌘ | A health warning is introduced concerning overlapping number criteria. |
| ***Consequences if not approved:*** ⌘ | Operators and/or service designers are not informed about unpredictable behaviour arising from overlapping number criteria. |

Clauses affected: ⌘	4.2.1.2.2

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

Other comments:	⌘	

4.2.1.2.2 Criteria at DP Analysed_Information

4.2.1.2.2.1 General

The criteria for a mobile originating call are checked in the originating MSC. The criteria for a mobile forwarded call are checked in the forwarding MSC.

For early forwarded calls in the GMSC, the HLR shall always include the trigger criteria in the subscriber data sent to the GMSC. Reason is that the HLR can not check the criteria applicable at DP Analysed Info, since the number that the criteria check shall be based on, may be modified by a Mobile Terminating or Mobile Forwarding Service Logic for this call.

For optimally routed late forwarded calls, the MSC shall always include the trigger criteria in the RCH message sent to the GMSC. Reason is that the MSC can not check the criteria applicable at DP Analysed Info, since the number that the criteria check shall be based on, may be modified by a Mobile Terminating or Mobile Forwarding Service Logic for this call.

The following criteria are applicable for DP Analysed_Information:

- Destination number triggering criterion: The HLR may store a list of up to 10 destination numbers. There is no restriction on the nature of address. There is no restriction on the numbering plan indicator.

    NOTE: The order in which the destination number criteria are checked in the MSC or GMSC is not determined. Hence, overlapping destination number criteria (e.g. use of "0800" and "0800123" for two different services) should be avoided, because they lead to unpredictable behaviour (i.e. either service might be triggered).

For MO calls, triggering at DP Analysed_Info shall be based on the called party number received over the access network or the Destination Routing Address in the Connect operation from the gsmSCF during a Mobile Originating CAMEL Service.

For MF calls at the VMSC, triggering at DP Analysed_Info shall be based on the number received over the access network (the Deflected-to-Number in case of Call Deflection), the Forwarded-to-Number retained in the VLR, or the Destination Routing Address in the Connect operation from the gsmSCF during a Mobile Terminated or Mobile Forwarded CAMEL Service.

For MF calls at the GMSC, triggering at DP Analysed_Info shall be based on the Forwarded-to-Number received from HLR, on the Destination Routing Address received in the Connect operation from gsmSCF during a Mobile Terminated or Mobile Forwarded CAMEL Service, or on the Forwarded-to-Number received in the RCH message.

4.2.1.2.2.2 Removal of information significant to the serving entity

In order to decide whether triggering shall take place, the trigger criteria need to be compared with the address information. Before the comparison takes place the following information shall be removed from the destination address information:

- Operator specific service selection information that is recognised and treated locally in the serving entity. This shall not lead to a change of the type of number indicator of the address information.

- Carrier selection information. If the removal of carrier selection information also removes international or national (trunk) prefixes (depending on regulatory requirements), then the type of number indicator of the address information shall be changed to "international number" or "national (significant) number" respectively. Otherwise the type of number indicator shall remain unchanged.

The address information in a subsequent Initial DP message at DP Analysed_Info shall not contain the removed information, however in the further call handling the serving entity shall invoke the requested services (e.g. carrier selection).

4.2.1.2.2.3   Number comparison

The following procedure shall be performed for the comparison of the destination number triggering criterion and the address information in the given order.

1. The numbering plan indicators of both numbers are ignored.

2. The type of number/nature of address indicators of both numbers are compared. If there is a match of the type of number indicator, then the check shall be performed by comparing the digits as defined in step 6. If there is no match of the type of number the comparison procedure shall continue as follows.

3. If there are other type of number/nature of address indicators present than "unknown", "national (significant) number" or "international number" then the destination number does not match the destination number triggering criterion. Otherwise the comparison procedure shall continue as follows.

4. If there is a number with type of number/nature of address "unknown" this number shall be translated based on the numbering plan of the serving entity in either of the following ways:

    -   if the leading digits refer to an international prefix, those digits shall be removed and the type of number/nature of address shall be set to "international number".

    -   if the leading digits refer to a national (trunk) prefix, those digits shall be removed and the type of number/nature of address shall be set to "national (significant) number".

    If the leading digits refer neither to an international prefix nor to a national (trunk) prefix, then the destination number does not match the destination number triggering criterion.

    If there is a match of the type of number/nature of address indicator after this number modification, then the check shall be performed by comparing the digits as defined in step 6, otherwise the comparison procedure shall continue as follows.

5. If there is a number with type of number/nature of address "national (significant) number" this number shall be translated based on the numbering plan of the serving entity to international format by adding the country code of the serving entity to the number string. After this modification both numbers shall be in international format and shall be checked by comparing the digits as defined in step 6.

6   If the number digits of the address information are compared with the number digits of the destination number triggering criterion, then there is a match if:

    -   the destination number is at least as long as the destination number string of the destination number triggering criterion; and

    -   all the digits in the destination number string of the destination number triggering criterion match the leading digits of the destination number.

The check described in this clause shall be repeated for every number contained in the destination number triggering criterion of the D-CSI until a match is recognised and DP Analysed_Info is triggered, or until all the destination numbers have been checked without a match being recognised. In the latter case DP Analysed_Info is not triggered.

The procedures for the destination number triggering criterion check for the N-CSI are network specific.

The modifications of the address information described in this clause shall be only be done for comparison purposes, i.e. they shall not affect the format of the destination address information sent in the Initial DP message.

*** End of Document ***

CR-Form-v7

CHANGE REQUEST

⌘	**23.078** CR **511**	⌘**rev**	**-**	⌘	Current version:	**4.6.1**	⌘

*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 **X**

Title: ⌘	Correction to Dialled Services criteria	
Source: ⌘	T-Mobile Deutschland	
Work item code: ⌘	CAMEL3	***Date:*** ⌘ 13/11/2002

Category: ⌘ **A**	***Release:*** ⌘ Rel-4

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	Rel-4 (Release 4)
be found in 3GPP <u>TR 21.900</u>.	Rel-5 (Release 5)
	Rel-6 (Release 6)

Reason for change: ⌘	In the last two CN2 meetings, there were several discussions on the order in which the individual Dialled Service criteria (in D-CSI) shall be checked by the MSC or GMSC.

It was recognized that the order in which the criteria are checked may affect the outcome of the check. Example:

criterion 1 = 0800   [Service 1]
criterion 2 = 0800123   [Service 2]

or

criterion 1 = 0800123   [Service 2]
criterion 2 = 0800   [Service 1]

When the subscriber dials "0800123", then this will lead to different results. In the former case, 0800123 will result in Service 1 being triggered. In the latter case, 0800123 will result in Service 2 being triggered.

However, CN2 also recognized that mandating an order in which the criteria shall be checked will have an impact on existing implementations. The topic was not regarded as being critical enough to justify such an impact.

To mandate such an order only in a later release (i.e. Rel. 5) would lead to backwards incompatibility, at least for some existing implementations.

Therefore, in the CN2 #26 meeting CN2 decided that no specific order shall be mandated for the number criteria check. However, a health warning should be

	added, in order to avoid the usage of overlapping number criteria. The present CR provides this health warning.
Summary of change: ⌘	A health warning is introduced concerning overlapping number criteria.
Consequences if ⌘ *not approved:*	Operators and/or service designers are not informed about unpredictable behaviour arising from overlapping number criteria.

Clauses affected: ⌘	4.2.1.2.2			
		Y	**N**	
Other specs ⌘ *affected:*			**X**	Other core specifications ⌘
			X	Test specifications
			X	O&M Specifications
Other comments: ⌘				

4.2.1.2.2 Criteria at DP Analysed_Information

4.2.1.2.2.1 General

The criteria for a mobile originating call are checked in the originating MSC. The criteria for a mobile forwarded call are checked in the forwarding MSC.

For early forwarded calls in the GMSC, the HLR shall always include the trigger criteria in the subscriber data sent to the GMSC. Reason is that the HLR can not check the criteria applicable at DP Analysed Info, since the number that the criteria check shall be based on, may be modified by a Mobile Terminating or Mobile Forwarding Service Logic for this call.

For optimally routed late forwarded calls, the MSC shall always include the trigger criteria in the RCH message sent to the GMSC. Reason is that the MSC can not check the criteria applicable at DP Analysed Info, since the number that the criteria check shall be based on, may be modified by a Mobile Terminating or Mobile Forwarding Service Logic for this call.

The following criteria are applicable for DP Analysed_Information:

- Destination number triggering criterion: The HLR may store a list of up to 10 destination numbers. There is no restriction on the nature of address. There is no restriction on the numbering plan indicator.

NOTE: The order in which the destination number criteria are checked in the MSC or GMSC is not determined. Hence, overlapping destination number criteria (e.g. use of "0800" and "0800123" for two different services) should be avoided, because they lead to unpredictable behaviour (i.e. either service might be triggered).

For MO calls, triggering at DP Analysed_Info shall be based on the called party number received over the access network or the Destination Routing Address in the Connect operation from the gsmSCF during a Mobile Originating CAMEL Service.

For MF calls at the VMSC, triggering at DP Analysed_Info shall be based on the number received over the access network (the Deflected-to-Number in case of Call Deflection), the Forwarded-to-Number retained in the VLR, or the Destination Routing Address in the Connect operation from the gsmSCF during a Mobile Terminated or Mobile Forwarded CAMEL Service.

For MF calls at the GMSC, triggering at DP Analysed_Info shall be based on the Forwarded-to-Number received from HLR, on the Destination Routing Address received in the Connect operation from gsmSCF during a Mobile Terminated or Mobile Forwarded CAMEL Service, or on the Forwarded-to-Number received in the RCH message.

4.2.1.2.2.2 Removal of information significant to the serving entity

In order to decide whether triggering shall take place, the trigger criteria need to be compared with the address information. Before the comparison takes place the following information shall be removed from the destination address information:

- Operator specific service selection information that is recognised and treated locally in the serving entity. This shall not lead to a change of the type of number indicator of the address information.

- Carrier selection information. If the removal of carrier selection information also removes international or national (trunk) prefixes (depending on regulatory requirements), then the type of number indicator of the address information shall be changed to "international number" or "national (significant) number" respectively. Otherwise the type of number indicator shall remain unchanged.

The address information in a subsequent Initial DP message at DP Analysed_Info shall not contain the removed information, however in the further call handling the serving entity shall invoke the requested services (e.g. carrier selection).

4.2.1.2.2.3 Number comparison

The following procedure shall be performed for the comparison of the destination number triggering criterion and the address information in the given order.

1. The numbering plan indicators of both numbers are ignored.

2. The type of number/nature of address indicators of both numbers are compared. If there is a match of the type of number indicator, then the check shall be performed by comparing the digits as defined in step 6. If there is no match of the type of number the comparison procedure shall continue as follows.

3. If there are other type of number/nature of address indicators present than "unknown", "national (significant) number" or "international number" then the destination number does not match the destination number triggering criterion. Otherwise the comparison procedure shall continue as follows.

4. If there is a number with type of number/nature of address "unknown" this number shall be translated based on the numbering plan of the serving entity in either of the following ways:

   - if the leading digits refer to an international prefix, those digits shall be removed and the type of number/nature of address shall be set to "international number".

   - if the leading digits refer to a national (trunk) prefix, those digits shall be removed and the type of number/nature of address shall be set to "national (significant) number".

   If the leading digits refer neither to an international prefix nor to a national (trunk) prefix, then the destination number does not match the destination number triggering criterion.

   If there is a match of the type of number/nature of address indicator after this number modification, then the check shall be performed by comparing the digits as defined in step 6, otherwise the comparison procedure shall continue as follows.

5. If there is a number with type of number/nature of address "national (significant) number" this number shall be translated based on the numbering plan of the serving entity to international format by adding the country code of the serving entity to the number string. After this modification both numbers shall be in international format and shall be checked by comparing the digits as defined in step 6.

6 If the number digits of the address information are compared with the number digits of the destination number triggering criterion, then there is a match if:

   - the destination number is at least as long as the destination number string of the destination number triggering criterion; and

   - all the digits in the destination number string of the destination number triggering criterion match the leading digits of the destination number.

The check described in this clause shall be repeated for every number contained in the destination number triggering criterion of the D-CSI until a match is recognised and DP Analysed_Info is triggered, or until all the destination numbers have been checked without a match being recognised. In the latter case DP Analysed_Info is not triggered.

The procedures for the destination number triggering criterion check for the N-CSI are network specific.

The modifications of the address information described in this clause shall be only be done for comparison purposes, i.e. they shall not affect the format of the destination address information sent in the Initial DP message.

*** End of Document ***

CR-Form-v7

CHANGE REQUEST

⌘	**23.078** CR **512**	⌘**rev**	**-**	⌘	Current version:	**5.1.0**	⌘

*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 **X**

Title: ⌘	Correction to Dialled Services criteria	
Source: ⌘	T-Mobile Deutschland	
Work item code: ⌘	CAMEL3	***Date:*** ⌘ 13/11/2002

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)*
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: ⌘	In the last two CN2 meetings, there were several discussions on the order in which the individual Dialled Service criteria (in D-CSI) shall be checked by the MSC or GMSC.

It was recognized that the order in which the criteria are checked may affect the outcome of the check. Example:

criterion 1 = 0800   [Service 1]
criterion 2 = 0800123   [Service 2]

or

criterion 1 = 0800123   [Service 2]
criterion 2 = 0800   [Service 1]

When the subscriber dials "0800123", then this will lead to different results. In the former case, 0800123 will result in Service 1 being triggered. In the latter case, 0800123 will result in Service 2 being triggered.

However, CN2 also recognized that mandating an order in which the criteria shall be checked will have an impact on existing implementations. The topic was not regarded as being critical enough to justify such an impact.

To mandate such an order only in a later release (i.e. Rel. 5) would lead to backwards incompatibility, at least for some existing implementations.

Therefore, in the CN2 #26 meeting CN2 decided that no specific order shall be mandated for the number criteria check. However, a health warning should be |

<table>
<tr><td rowspan="3"></td><td colspan="3">added, in order to avoid the usage of overlapping number criteria.

The present CR provides this health warning.</td></tr>
</table>

Summary of change: ⌘	A health warning is introduced concerning overlapping number criteria.	
Consequences if not approved: ⌘	Operators and/or service designers are not informed about unpredictable behaviour arising from overlapping number criteria.	

Clauses affected: ⌘	4.2.1.2.2	

	Y	N			
Other specs ⌘	X		Other core specifications	⌘	23.278
affected:		X	Test specifications		
		X	O&M Specifications		

Other comments: ⌘	

4.2.1.2.2 Criteria at DP Analysed_Information

4.2.1.2.2.1 General

The criteria for a mobile originating call are checked in the originating MSC. The criteria for a mobile forwarded call are checked in the forwarding MSC.

For early forwarded calls in the GMSC, the HLR shall always include the trigger criteria in the subscriber data sent to the GMSC because that the HLR can not check the criteria applicable at DP Analysed_Info, since the number that the criteria check shall be based on, may be modified by a Mobile Terminating or Mobile Forwarding Service Logic for this call.

For optimally routed late forwarded calls, the MSC shall always include the trigger criteria in the Resume Call Handling information flow sent to the GMSC because the MSC can not check the criteria applicable at DP Analysed_Info, since the number that the criteria check shall be based on, may be modified by a Mobile Terminating or Mobile Forwarding Service Logic for this call.

The following criteria are applicable for DP Analysed_Information:

- Destination number triggering criterion: The HLR may store a list of up to 10 destination numbers. There is no restriction on the nature of address. There is no restriction on the numbering plan indicator.

NOTE: The order in which the destination number criteria are checked in the MSC or GMSC is not determined. Hence, overlapping destination number criteria (e.g. use of "0800" and "0800123" for two different services) should be avoided, because they lead to unpredictable behaviour (i.e. either service might be triggered).

For MO calls, triggering at DP Analysed_Info shall be based on the called party number received over the access network or the Destination Routing Address in the Connect information flow from the gsmSCF during a Mobile Originating CAMEL Service.

For MF calls at the VMSC, triggering at DP Analysed_Info shall be based on the number received over the access network (the Deflected-to-Number in the case of Call Deflection), the Forwarded-to-Number retained in the VLR, or the Destination Routing Address in the Connect information flow from the gsmSCF during a Mobile Terminated or Mobile Forwarded CAMEL Service.

For MF calls at the GMSC, triggering at DP Analysed_Info shall be based on the Forwarded-to-Number received from the HLR, on the Destination Routing Address received in the Connect information flow from gsmSCF during a Mobile Terminated or Mobile Forwarded CAMEL Service, or on the Forwarded-to-Number received in the Resume Call Handling information flow.

4.2.1.2.2.2 Removal of information significant to the serving entity

In order to decide whether triggering shall take place, the trigger criteria need to be compared with the address information. Before the comparison takes place the following information shall be removed from the destination address information:

- Operator specific service selection information that is recognised and treated locally in the serving entity. This shall not lead to a change of the type of number indicator of the address information.

- Carrier selection information. If the removal of carrier selection information also removes international or national (trunk) prefixes (depending on regulatory requirements), then the type of number indicator of the address information shall be changed to "international number" or "national (significant) number" respectively. Otherwise the type of number indicator shall remain unchanged.

The address information in a subsequent Initial DP information flow at DP Analysed_Info shall not contain the removed information, however in the further call handling the serving entity shall invoke the requested services (e.g. carrier selection).

4.2.1.2.2.3 Number comparison

The following procedure shall be performed for the comparison of the destination number triggering criterion and the address information in the given order.

1. The numbering plan indicators of the destination number triggering criterion and the destination number are ignored.

2. The type of number/nature of address indicators of the destination number triggering criterion and the destination number are compared. If there is a match of the type of number indicator, then the check shall be performed by comparing the digits as defined in step 6. If there is no match of the type of number the comparison procedure shall continue as follows.

3. If there are other types of number/nature of address indicators present than "unknown", "national (significant) number" or "international number" then the destination number does not match the destination number triggering criterion. Otherwise the comparison procedure shall continue as follows.

4. If there is a number with type of number/nature of address "unknown" this number shall be translated based on the numbering plan of the serving entity in either of the following ways:

   - if the leading digits refer to an international prefix then those digits shall be removed and the type of number/nature of address shall be set to "international number".

   - if the leading digits refer to a national (trunk) prefix then those digits shall be removed and the type of number/nature of address shall be set to "national (significant) number".

   If the leading digits refer neither to an international prefix nor to a national (trunk) prefix, then the destination number does not match the destination number triggering criterion.

   If there is a match of the type of number/nature of address indicator after this number modification, then the check shall be performed by comparing the digits as defined in step 6, otherwise the comparison procedure shall continue as follows.

5. If there is a number with type of number/nature of address "national (significant) number" this number shall be translated based on the numbering plan of the serving entity to international format by adding the country code of the serving entity to the number string. After this modification the destination number triggering criterion and the destination number shall be in international format and shall be checked by comparing the digits as defined in step 6.

6 If the number of digits in the address information are compared with the number of digits in the destination number triggering criterion, then there is a match if:

   - the destination number is at least as long as the destination number string of the destination number triggering criterion, and

   - all the digits in the destination number string of the destination number triggering criterion match the leading digits of the destination number.

The check described in this subclause shall be repeated for every number contained in the destination number triggering criterion of the D-CSI until there is a match DP Analysed_Info is triggered, or until all the destination numbers have been checked without a match. In the latter case DP Analysed_Info is not triggered.

The procedures for the destination number triggering criterion check for N-CSI are network specific.

The modifications of the address information described in this subclause shall only be done for comparison purposes, i.e. they shall not affect the format of the destination address information sent in the Initial DP information flow.

*** End of Document ***

<table>
<tr><td colspan="3" align="right">CR-Form-v7</td></tr>
<tr><td colspan="3" align="center"><h1>CHANGE REQUEST</h1></td></tr>
</table>

| ⌘ | **23.078** CR **498** | ⌘ **rev** | **3** ⌘ | Current version: | **3.14.0** ⌘ |

*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 **X**

Title: ⌘	Clarification on ATM -> NSDC when status of one SS impacts another SS	
Source: ⌘	Nokia	
Work item code: ⌘	CAMEL3	**Date:** ⌘ 15/11/2002
Category: ⌘	**F (essential correction)**	**Release:** ⌘ R99

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 <u>TR 21.900</u>.

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: ⌘	It is unclearly specified what shall happen when Any Time Modification (ATM) modifies one supplementary service and status of another SS is therefore modified. On one hand, it is forbidden to send Notify Subscriber Data Change (NSDC) to same SCP/gsmSCF which sent the ATM. On the other hand, ATM-ack can not convey all changes. For example, if ATM(CFU, passivate) is sent, CFB, CFNRc and CFNRy may become "active". ATM-ack can only convey information about CFU.
Summary of change: ⌘	The ATM-ack conveys the modified SS to requesting gsmSCF. The requesting gsmSCF gets all other modified supplementary services in NSDC. All other gsmSCF to be notified get all changes informed in NSDC. In this CFU example: 1. gsmSCF1 sends ATM(CFU, "passivate") 2. gsmSCF1 gets ATM-ack(CFU, "passive") 3. gsmSCF1 gets NSDC(CFB, "active") 4. gsmSCF1 gets NSDC(CFNRc, "active") 5. gsmSCF1 gets NSDC(CFNRy, "active") 6. gsmSCF2 gets NSDC(CFU, "passive") 7. gsmSCF2 gets NSDC(CFB, "active") 8. gsmSCF2 gets NSDC(CFNRc, "active") 9. gsmSCF2 gets NSDC(CFNRy, "active")
Consequences if not approved: ⌘	Incompatibilty between SCP and HLR of different vendors.

Clauses affected: ⌘	10.2.3

Y	**N**

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

10.2.3   Notify Subscriber Data Change

Changes of CSI, Call Forwarding data, Call Barring data or ODB data shall be notified only if the CSI, Call Forwarding data, Call Barring data or ODB data is marked with the Notification-to-CSE flag.

The HLR maintains a list of gsmSCF address(es) for Call Forwarding Data, Call Barring Data, ODB and CSI. When any of these items has been modified, a notification shall be sent to each gsmSCF in the corresponding list.

The sending of a notification to the gsmSCF may be triggered by the following processes:

-    subscriber data change by administrative procedure;

-    subscriber data changed by subscriber;

-    subscriber data changed by Any Time Modification request from gsmSCF;

-    ==subscriber data changed due to a change of other subscriber data;==

-    subscriber data change due to Location Update.

~~When the change of subscriber data was requested by Any Time Modification the notification of change of subscriber data shall not be sent to the gsmSCF which originated this Any Time Modification request.~~When a change of subscriber data is requested by the Any Time Modification request IF, the Any Time Modification ack IF is returned to the requesting gsmSCF confirming the status of the altered data. Separate Notify Subscriber Data Change IFs shall also be returned to the requesting gsmSCF for each other piece of altered data, but these shall not contain the requested change.

Each gsmSCF shall be notified only once. Multiple occurrence of gsmSCF Address in these lists shall not lead to multiple notification.

Handling of Notify Subscriber Data Change involves the following procedure:

-    CAMEL_NSDC_HLR.

If a change of subscriber data needs to be notified to the gsmSCF, then the HLR initiates a transaction to the gsmSCF by sending Notify Subscriber Data Change message.

CR-Form-v7

CHANGE REQUEST

| ⌘ | **23.078** CR **506** | ⌘ **rev** | **2** | ⌘ | Current version: | **4.6.1** | ⌘ |

*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 **X**

Title:	⌘	Clarification on ATM -> NSDC when status of one SS impacts another SS

Source:	⌘	Nokia

Work item code:	⌘	CAMEL3		*Date:*	⌘	15/11/2002

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),
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)
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R98	(Release 1998)
R99	(Release 1999)
Rel-4	(Release 4)
Rel-5	(Release 5)
Rel-6	(Release 6)

| *Reason for change:* | ⌘ | It is unclearly specified what shall happen when Any Time Modification (ATM) modifies one supplementary service and status of another SS is therefore modified. On one hand, it is forbidden to send Notify Subscriber Data Change (NSDC) to same SCP/gsmSCF which sent the ATM. On the other hand, ATM-ack can not convey all changes.

For example, if ATM(CFU, passivate) is sent, CFB, CFNRc and CFNRy may become "active". ATM-ack can only convey information about CFU. |
|---|---|---|

| *Summary of change:* | ⌘ | The ATM-ack conveys the modified SS to requesting gsmSCF. The requesting gsmSCF gets all other modified supplementary services in NSDC. All other gsmSCF to be notified get all changes informed in NSDC. In this CFU example:
1. gsmSCF1 sends ATM(CFU, "passivate")
2. gsmSCF1 gets ATM-ack(CFU, "passive")
3. gsmSCF1 gets NSDC(CFB, "active")
4. gsmSCF1 gets NSDC(CFNRc, "active")
5. gsmSCF1 gets NSDC(CFNRy, "active")
6. gsmSCF2 gets NSDC(CFU, "passive")
7. gsmSCF2 gets NSDC(CFB, "active")
8. gsmSCF2 gets NSDC(CFNRc, "active")
9. gsmSCF2 gets NSDC(CFNRy, "active") |
|---|---|---|

Consequences if not approved:	⌘	Incompatibilty between SCP and HLR of different vendors.

Clauses affected:	⌘	10.2.3

| | **Y** | **N** |

Other specs affected:	⌘		**X**	Other core specifications	⌘	
			X	Test specifications		
			X	O&M Specifications		
Other comments:	⌘					

10.2.3   Notify Subscriber Data Change

Changes of CSI, Call Forwarding data, Call Barring data or ODB data shall be notified only if the CSI, Call Forwarding data, Call Barring data or ODB data is marked with the Notification-to-CSE flag.

The HLR maintains a list of gsmSCF address(es) for Call Forwarding Data, Call Barring Data, ODB and CSI. When any of these items has been modified, a notification shall be sent to each gsmSCF in the corresponding list.

The sending of a notification to the gsmSCF may be triggered by the following processes:

- subscriber data change by administrative procedure;

- subscriber data changed by subscriber;

- subscriber data changed by Any Time Modification request from gsmSCF;

- subscriber data changed due to a change of other subscriber data;

- subscriber data change due to Location Update.

~~When the change of subscriber data was requested by Any Time Modification the notification of change of subscriber data shall not be sent to the gsmSCF which originated this Any Time Modification request.~~ When a change of subscriber data is requested by the Any Time Modification request IF, the Any Time Modification ack IF is returned to the requesting gsmSCF confirming the status of the altered data. Separate Notify Subscriber Data Change IFs shall also be returned to the requesting gsmSCF for each other piece of altered data, but these shall not contain the requested change.

Each gsmSCF shall be notified only once. Multiple occurrence of gsmSCF Address in these lists shall not lead to multiple notification.

Handling of Notify Subscriber Data Change involves the following procedure:

- CAMEL_NSDC_HLR.

If a change of subscriber data needs to be notified to the gsmSCF, then the HLR initiates a transaction to the gsmSCF by sending Notify Subscriber Data Change message.

CR-Form-v7

CHANGE REQUEST

| ⌘ | **23.078** CR **507** | ⌘ **rev** | **2** | ⌘ | Current version: | **5.1.0** | ⌘ |

*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 **[X]**

Title: ⌘	Clarification on ATM -> NSDC when status of one SS impacts another SS	
Source: ⌘	Nokia	
Work item code: ⌘	CAMEL3	***Date:*** ⌘ 15/11/2002

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)*
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: ⌘	It is unclearly specified what shall happen when Any Time Modification (ATM) modifies one supplementary service and status of another SS is therefore modified. On one hand, it is forbidden to send Notify Subscriber Data Change (NSDC) to same SCP/gsmSCF which sent the ATM. On the other hand, ATM-ack can not convey all changes.

For example, if ATM(CFU, passivate) is sent, CFB, CFNRc and CFNRy may become "active". ATM-ack can only convey information about CFU. |
| ***Summary of change:*** ⌘ | The ATM-ack conveys the modified SS to requesting gsmSCF. The requesting gsmSCF gets all other modified supplementary services in NSDC. All other gsmSCF to be notified get all changes informed in NSDC. In this CFU example:
1.   gsmSCF1 sends ATM(CFU, "passivate")
2.   gsmSCF1 gets ATM-ack(CFU, "passive")
3.   gsmSCF1 gets NSDC(CFB, "active")
4.   gsmSCF1 gets NSDC(CFNRc, "active")
5.   gsmSCF1 gets NSDC(CFNRy, "active")
6.   gsmSCF2 gets NSDC(CFU, "passive")
7.   gsmSCF2 gets NSDC(CFB, "active")
8.   gsmSCF2 gets NSDC(CFNRc, "active")
9.   gsmSCF2 gets NSDC(CFNRy, "active") |
| ***Consequences if not approved:*** ⌘ | Incompatibilty between SCP and HLR of different vendors. |

Clauses affected: ⌘	10.2.3

Y	**N**

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

10.2.3   Notify Subscriber Data Change

Changes of CSI, Call Forwarding data, Call Barring data or ODB data shall be notified only if the CSI, Call Forwarding data, Call Barring data or ODB data is marked with the Notification-to-CSE flag.

The HLR maintains a list of gsmSCF address(es) for Call Forwarding Data, Call Barring Data, ODB and CSI. When any of these items has been modified, a notification shall be sent to each gsmSCF in the corresponding list.

The sending of a notification to the gsmSCF may be triggered by the following processes:

-    subscriber data change by administrative procedure;

-    subscriber data changed by subscriber;

-    subscriber data changed by Any Time Modification request from gsmSCF;

-    subscriber data changed due to a change of other subscriber data;

-    subscriber data change due to Location Update.

~~When the change of subscriber data was requested by Any Time Modification the notification of change of subscriber data shall not be sent to the gsmSCF which originated this Any Time Modification request.~~ When a change of subscriber data is requested by Any Time Modification, Any Time Modification acknowlegement is returned to the requesting gsmSCF confirming the status of the altered data. Separate Notifications of subscriber data change shall also be returned to the requesting gsmSCF for each other piece of altered data, but these shall not contain the requested change.

Each gsmSCF shall be notified only once. Multiple occurrence of gsmSCF Address in these lists shall not lead to multiple notification.

Handling of Notify Subscriber Data Change involves the following procedure:

-    CAMEL_NSDC_HLR.

If a change of subscriber data needs to be notified to the gsmSCF, then the HLR initiates a transaction to the gsmSCF by sending Notify Subscriber Data Change information flow.