

ETSI TS 123 096 V12.0.0 (2014-10)



**Digital cellular telecommunications system (Phase 2+);
Universal Mobile Telecommunications System (UMTS);
Name identification supplementary services;
Stage 2
(3GPP TS 23.096 version 12.0.0 Release 12)**



Reference

RTS/TSGC-0423096vc00

Keywords

GSM, UMTS

ETSI

650 Route des Lucioles
F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - NAF 742 C
Association à but non lucratif enregistrée à la
Sous-Préfecture de Grasse (06) N° 7803/88

Important notice

The present document can be downloaded from:

<http://www.etsi.org>

The present document may be made available in electronic versions and/or in print. The content of any electronic and/or print versions of the present document shall not be modified without the prior written authorization of ETSI. In case of any existing or perceived difference in contents between such versions and/or in print, the only prevailing document is the print of the Portable Document Format (PDF) version kept on a specific network drive within ETSI Secretariat.

Users of the present document should be aware that the document may be subject to revision or change of status. Information on the current status of this and other ETSI documents is available at

<http://portal.etsi.org/tb/status/status.asp>

If you find errors in the present document, please send your comment to one of the following services:

http://portal.etsi.org/chaicor/ETSI_support.asp

Copyright Notification

No part may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm except as authorized by written permission of ETSI.

The content of the PDF version shall not be modified without the written authorization of ETSI.

The copyright and the foregoing restriction extend to reproduction in all media.

© European Telecommunications Standards Institute 2014.

All rights reserved.

DECT™, **PLUGTESTS™**, **UMTS™** and the ETSI logo are Trade Marks of ETSI registered for the benefit of its Members. **3GPP™** and **LTE™** are Trade Marks of ETSI registered for the benefit of its Members and of the 3GPP Organizational Partners.

GSM® and the GSM logo are Trade Marks registered and owned by the GSM Association.

Intellectual Property Rights

IPRs essential or potentially essential to the present document may have been declared to ETSI. The information pertaining to these essential IPRs, if any, is publicly available for **ETSI members and non-members**, and can be found in ETSI SR 000 314: *"Intellectual Property Rights (IPRs); Essential, or potentially Essential, IPRs notified to ETSI in respect of ETSI standards"*, which is available from the ETSI Secretariat. Latest updates are available on the ETSI Web server (<http://ipr.etsi.org>).

Pursuant to the ETSI IPR Policy, no investigation, including IPR searches, has been carried out by ETSI. No guarantee can be given as to the existence of other IPRs not referenced in ETSI SR 000 314 (or the updates on the ETSI Web server) which are, or may be, or may become, essential to the present document.

Foreword

This Technical Specification (TS) has been produced by ETSI 3rd Generation Partnership Project (3GPP).

The present document may refer to technical specifications or reports using their 3GPP identities, UMTS identities or GSM identities. These should be interpreted as being references to the corresponding ETSI deliverables.

The cross reference between GSM, UMTS, 3GPP and ETSI identities can be found under <http://webapp.etsi.org/key/queryform.asp>.

Modal verbs terminology

In the present document "**shall**", "**shall not**", "**should**", "**should not**", "**may**", "**may not**", "**need**", "**need not**", "**will**", "**will not**", "**can**" and "**cannot**" are to be interpreted as described in clause 3.2 of the [ETSI Drafting Rules](#) (Verbal forms for the expression of provisions).

"**must**" and "**must not**" are **NOT** allowed in ETSI deliverables except when used in direct citation.

Contents

Intellectual Property Rights	2
Foreword.....	2
Modal verbs terminology.....	2
Foreword.....	4
1 Scope	5
2 References	5
3 Definitions and Abbreviations.....	5
3.1 Definitions	5
3.2 Abbreviations	6
4 Calling Name Presentation (CNAP).....	6
4.1 Handling of calling name presentation.....	6
4.1.1 Originating MSC Activities	6
4.1.2 Terminating VMSC Activities	6
4.1.3 Interrogation	7
4.2 Functions and information flows.....	7
4.3 Information stored in the HLR	12
4.4 State Transition Model	12
4.5 Transfer of information from HLR to VLR.....	12
4.6 Information stored in the VLR	12
4.7 Handover	12
Annex A (normative for PCS1900): Calling Name Information Setting to the MS	13
Annex B (informative): Change history	14
History	15

Foreword

This Technical Specification (TS) has been produced by the 3rd Generation Partnership Project (3GPP).

The present document describes name identification supplementary services (stage 2) within the 3GPP system.

The contents of the present document are subject to continuing work within the TSG and may change following formal TSG approval. Should the TSG modify the contents of the present document, it will be re-released by the TSG with an identifying change of release date and an increase in version number as follows:

Version x.y.z

where:

- x the first digit:
 - 1 presented to TSG for information;
 - 2 presented to TSG for approval;
 - 3 or greater indicates TSG approved document under change control.
- y the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.
- z the third digit is incremented when editorial only changes have been incorporated in the document.

1 Scope

The present document gives the stage 2 description of the Name Identification Supplementary Services.

The group of Name Identification Supplementary Services contains the following Supplementary Service:

CNAP - Calling name presentation (clause 4).

2 References

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

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[2] 3GPP TS 22.004: "General on Supplementary Services".

[3] 3GPP TS 23.011: "Technical Realization of Supplementary Services - General Aspects".

[4] 3GPP TS 23.016: "Subscriber Data Management - Stage 2".

[5] 3GPP TS 23.081: "Line Identification Supplementary Services - Stage 2".

3 Definitions and Abbreviations

3.1 Definitions

Definition of name identity:

The name identity is made up of the following information unit:

- The name of the mobile subscriber for the purpose of calling name presentation - up to 80 characters of information associated with a specific calling party.

The calling name identity is the name identity of the calling party.

Definition of Presentation Indicator:

In addition to or instead of the name identity, the network may give a Presentation Indicator to the called mobile subscriber of the CNAP service. The following information may be given:

- Presentation Indicator (PI) showing:
 - a) presentation restricted, or
 - b) name unavailable.

Calling Name Information:

The calling name information of the calling party includes either the calling name identity or an indication of privacy or unavailability.

3.2 Abbreviations

In addition to the following abbreviations used in the present document, abbreviations are listed in 3GPP TR 21.905 [1].

CNAP	Calling Name Presentation.
------	----------------------------

4 Calling Name Presentation (CNAP)

4.1 Handling of calling name presentation

4.1.1 Originating MSC Activities

The originating MSC may include calling name information in the Setup.

4.1.2 Terminating VMSC Activities

The calling name identity shall be provided by the terminating VMSC to the MS. See Figure 3a/3b for details.

The procedures of the name database query are outside the scope of the present document.

The MSC shall determine the presentation indicator to be sent to the CNAP subscriber's MS by combining the presentation indicator in the calling line information (if available), the presentation indicator in the calling name information (if available) and the presentation indicator in the response from the name database (if applicable). The calling name shall be restricted if either the line or name indicator shows the information is to be restricted (and override category is not applicable). The precise handling depends on the structure of the name database and is therefore outside the scope of the present document. An example is shown in annex A.

If a name database query is not possible, e.g. calling line identity is unavailable, name database is not responding, or the name database response timer expires, then the MSC shall send a presentation indicator of name unavailable to the CNAP subscriber's MS.

A character translation may be required by the terminating MSC since the name characters stored in the name database are not using the GSM default alphabet (name characters passed to the CNAP subscriber's MS use the GSM default alphabet). Display of calling name identity to the subscriber is outside the scope of the present document.

4.1.3 Interrogation

Status check

The mobile subscriber can request the status of the supplementary service and be informed if the service is provided to him/her. This procedure is illustrated in figure 1.

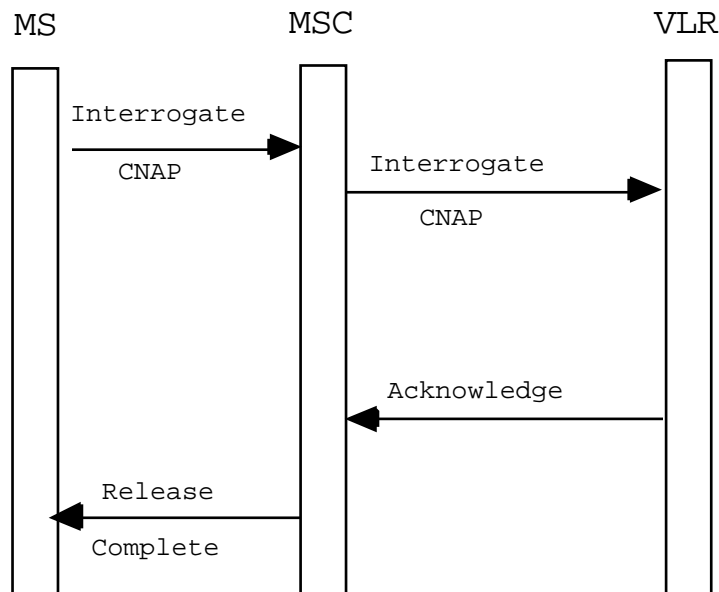


Figure 1: Interrogation of Calling Name Presentation

4.2 Functions and information flows

The following Mobile Additional Functions (MAF) have been identified for the PLMN:

MAF049

Determination of the calling name presentation subscription.

The ability of a PLMN component to determine whether the supplementary service is provisioned for the mobile subscriber. See figure 3a.

Location: VLR.

MAF050

Determination of the calling party name for offering to the called party.

The ability of a PLMN component to determine and to forward the calling name identity and related indications to the called party. See figure 3b.

Location: destination MSC.

The information flow is shown in figure 4.

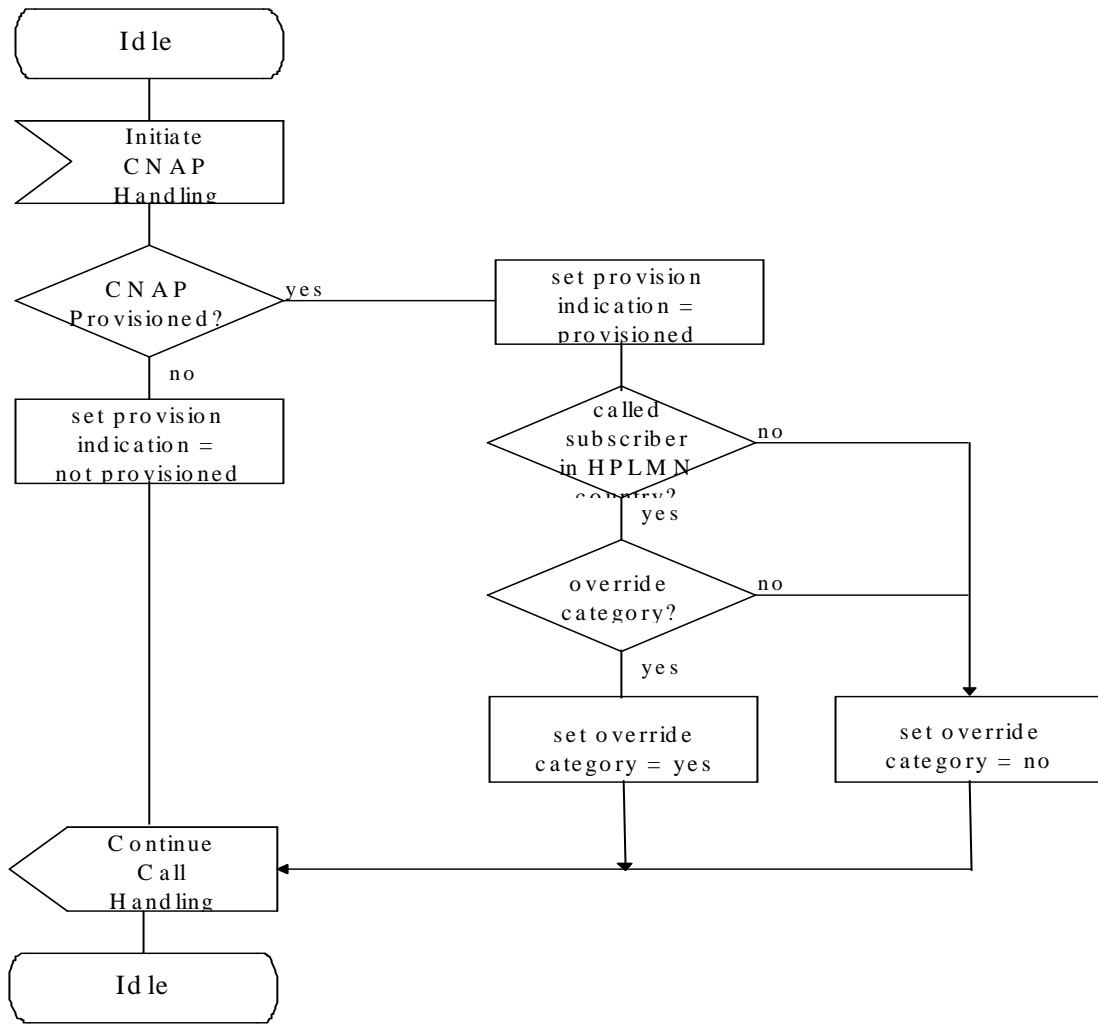


Figure 2: MAF049 Determination of the calling name presentation subscription (VLR)

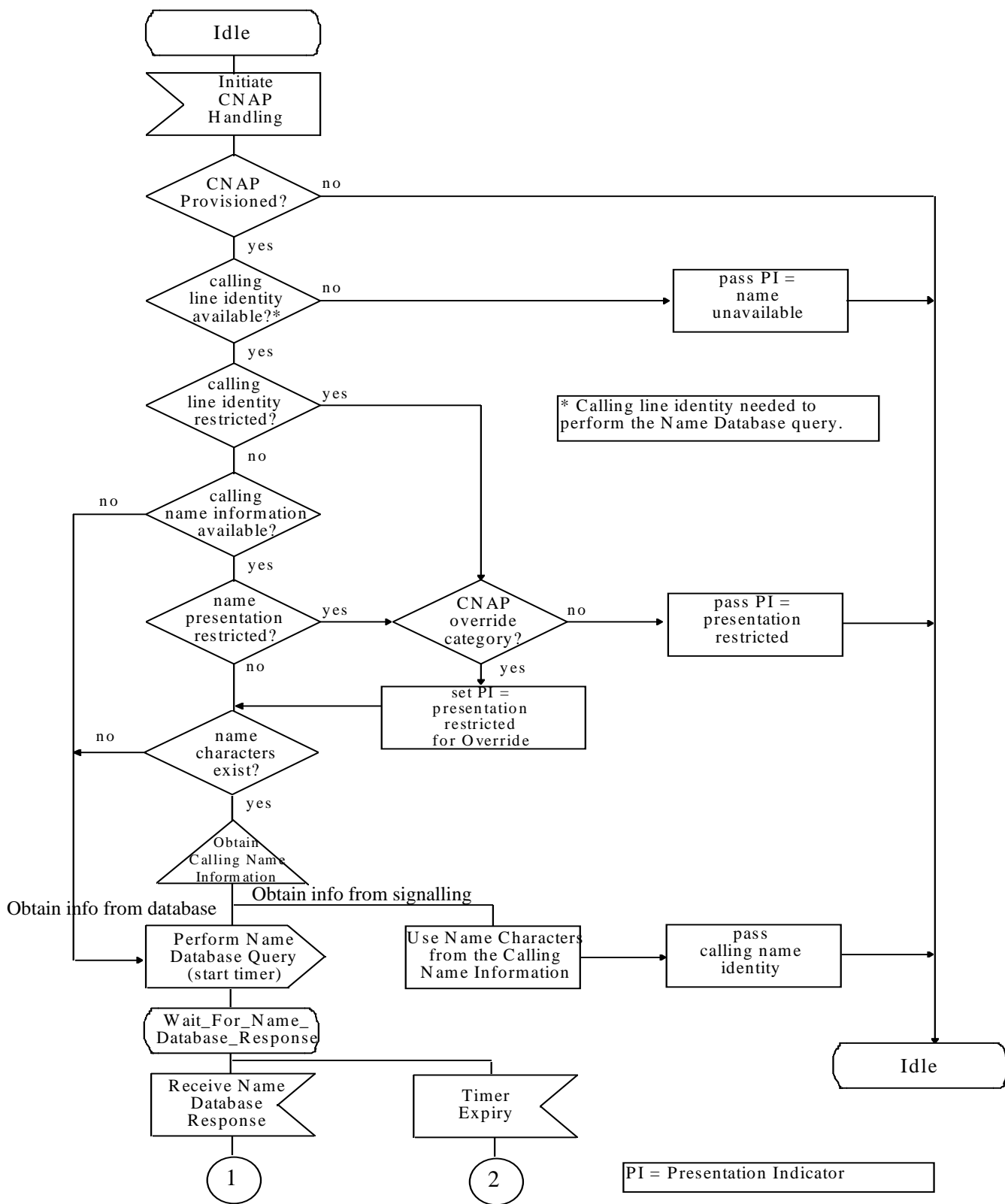


Figure 3a: MAF050(CNAP) Determination of the information for offering to the called party (Sheet 1)

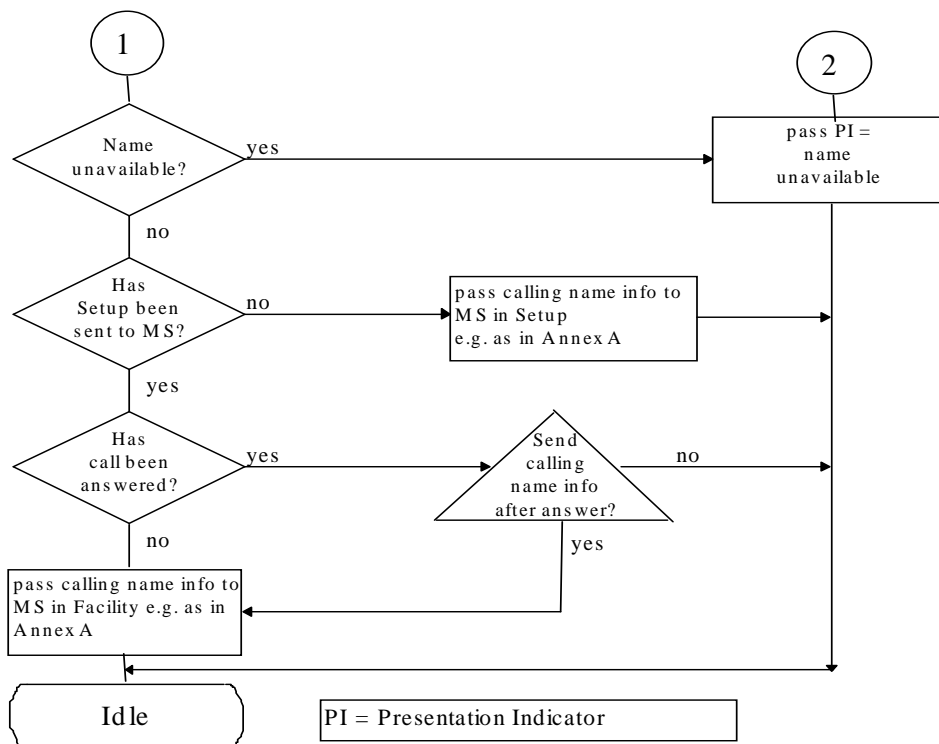


Figure 3b: MAF050(CNAP) Determination of the information for offering to the called party (Sheet 2)

4.3 Information stored in the HLR

CNAP may have the following logical states (refer to 3GPP TS 23.011 for an explanation of the notation):

Provision State	Registration State	Activation State	HLR Induced State
(Not Provisioned, Provisioned,	Not Applicable, Not Applicable,	Not Active, Active and Operative,	Not Induced) Not Induced)

The HLR shall store the logical state of CNAP (which shall be one of the valid state listed above) on a per subscriber basis.

The HLR shall also store the subscription option "override category" on a per subscriber basis. The subscription options are: "Yes" or "No".

4.4 State Transition Model

The following figure shows the successful cases of transition between the applicable logical states of CNAP. The state changes are caused by actions of the service provider.

Note that error cases are not shown in the diagram as they normally do not cause change. Additionally, some successful requests may not cause a state change. Hence they are not shown in the diagram.

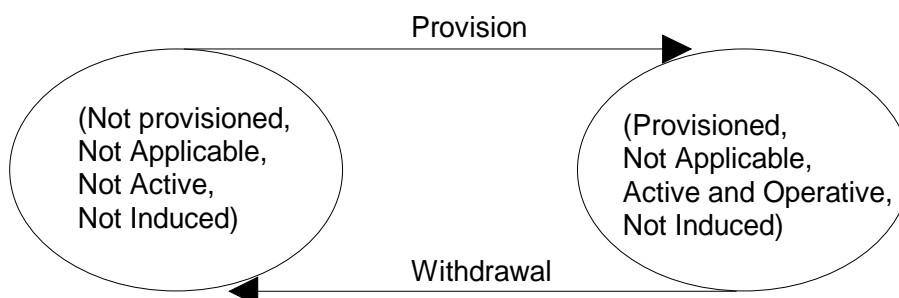


Figure 5: State Transition model for CNAP

4.5 Transfer of information from HLR to VLR

If the provisioning state for CNAP is "provisioned" then, when the subscriber registers on a VLR, the HLR shall send the VLR subscriber information about the logical state of CNAP. Please refer to GSM 03.16 for details related to the handling of supplementary service information between the HLR and VLR.

If the logical state of CNAP or the override category is changed while a subscriber is registered on a VLR, then the HLR shall inform the VLR of the logical state of CNAP. If the override category is changed and the provisioning state of CNAP is "Provisioned", then the HLR shall inform the VLR about the new override category when the VLR is in the HPLMN country. The HLR may inform the VLR about the new override category when the VLR is outside the HPLMN country.

4.6 Information stored in the VLR

For CNAP, the VLR shall store the service state information and override category received from the HLR. If not received from the HLR (in case of roaming outside the HPLMN country), the override category shall be set to the default value "no".

4.7 Handover

Handover will have no impact on the control procedures and the operation of the service.

Annex A (normative for PCS1900): Calling Name Information Setting to the MS

A name database query is performed using the calling party's line identity as specified in ANSI T1.641 "Calling Name Identification Presentation".

The calling name information, which contains the resulting presentation indicator, as shown in Table 1 is sent to the CNAP subscriber's MS.

Table 1: Determination of Calling Name Information sent to CNAP subscriber's MS

Presentation Indicator in Calling Name Information	Presentation Indicator in Name Database	Calling Name Information sent to the CNAP subscriber's MS
Presentation Allowed	Presentation Allowed	Calling Name Identity
	Presentation Restricted	
	Blocking Toggle	
	No Indication	
Presentation Restricted	No Database Query performed	Presentation Restricted ¹
Blocking Toggle	Presentation Allowed	Presentation Restricted ¹
	Presentation Restricted	Calling Name Identity
	Blocking Toggle	Unavailable ²
	No Indication	Unavailable ²
No Indication (or No Calling Name Information present)	Presentation Allowed	Calling Name Identity
	Presentation Restricted	Presentation Restricted ¹
	Blocking Toggle	Unavailable ²
	No Indication	Unavailable ²

NOTE1: If the override category is set to yes, the MSC shall send the calling name identity and a presentation indicator of presentation restricted to the CNAP subscriber's MS.

NOTE 2: These combinations are unexpected: an indication of name unavailable is given.

Annex B (informative): Change history

Change history						
TSG CN#	Spec	Version	CR	<Phase>	New Version	Subject/Comment
Apr 1999	GSM 03.96	6.0.1				Transferred to 3GPP CN1
CN#03	23.096				3.0.0	Approved at CN#03
	23.096	3.0.0		R99	3.0.1	References updated from 2G to 3G
CN#11	23.096	3.0.1		Rel-4	4.0.0	Release 4 after CN#11
CN#16	23.096	4.0.0		Rel-5	5.0.0	Release 5 after CN#16
CN#26	23.096	5.0.0		Rel-6	6.0.0	Release 6 after CN#26
CT#30	23.096	6.0.0	0001	Rel-6	6.1.0	Incorrect reference
CT#35	23.096	6.1.0		Rel-7	7.0.0	Upgraded unchanged from Rel-6
CT#42	23.096	7.0.0		Rel-8	8.0.0	Upgraded unchanged from Rel-7
CT#46	23.096	8.0.0	-	Rel-9	9.0.0	Update to Rel-9 version (MCC)
2011-03	23.096	9.0.0	-	Rel-10	10.0.0	Update to Rel-10 version (MCC)
2012-09	23.096	10.0.0	-	Rel-11	11.0.0	Update to Rel-11 version (MCC)
2014-09	23.096	11.0.0	-	Rel-12	12.0.0	Update to Rel-12 version (MCC)

History

Document history		
V12.0.0	October 2014	Publication