

# ETSI TS 123 081 V14.0.0 (2017-04)



**Digital cellular telecommunication system (Phase 2+) (GSM);  
Universal Mobile Telecommunications System (UMTS);  
Line Identification supplementary services;  
Stage 2  
(3GPP TS 23.081 version 14.0.0 Release 14)**



---

**Reference**

RTS/TSGC-0423081ve00

---

**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/standards-search>

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  
<https://portal.etsi.org/TB/ETSIDeliverableStatus.aspx>

If you find errors in the present document, please send your comment to one of the following services:  
<https://portal.etsi.org/People/CommiteeSupportStaff.aspx>

---

**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 2017.  
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 (<https://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 the ETSI 3<sup>rd</sup> 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**", "**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.....	5
0 Scope .....	6
0.1 References .....	6
0.2 Definitions and abbreviations.....	6
0.2.1 Definitions .....	6
0.2.1.1 Definition of line identity.....	6
0.2.1.2 Definition of presentation and screening indicators.....	7
0.2.2 Abbreviations.....	7
1 Calling line identification presentation (CLIP) .....	7
1.1 Handling of calling line identification presentation .....	7
1.1.1 Interrogation .....	7
1.2 Functions and information flows.....	8
1.2.1 Optional capability to carry calling line identification .....	17
1.2.2 Information elements used in the messages.....	17
1.2.3 Parameters in Send Routeing Info and Provide Roaming Number for CLI.....	18
1.2.4 Messages between MSC and VLR in destination network.....	19
1.3 Information stored in the HLR .....	19
1.4 State transition model.....	19
1.5 Transfer of information from HLR to VLR.....	20
1.6 Information stored in the VLR .....	20
1.7 Handover .....	20
1.8 Interactions with other supplementary services.....	20
2 Calling line identification restriction (CLIR).....	20
2.1 Handling of calling line identification restriction.....	20
2.1.1 General.....	20
2.1.2 Permanent mode .....	21
2.1.3 Controlling presentation of the CLI when CLIR is provisioned in temporary mode.....	21
2.1.4 Interrogation .....	21
2.2 Functions and information flows.....	22
2.3 Information stored in the HLR .....	28
2.4 State transition model.....	28
2.5 Transfer of information from HLR to VLR.....	28
2.6 Information stored in the VLR .....	28
2.7 Handover .....	29
2.8 Interworking.....	29
3 Connected line identification presentation (COLP) .....	29
3.1 Handling of connected line identification presentation .....	29
3.1.1 Interrogation .....	29
3.1.2 Interactions with call forwarding supplementary services.....	30
3.2 Functions and information flows.....	30
3.3 Information stored in the HLR .....	35
3.4 State transition model.....	35
3.5 Transfer of information from HLR to VLR.....	35
3.6 Information stored in the VLR .....	35
3.7 Handover .....	36
4 Connected line identification restriction (COLR) .....	36
4.1 Handling of connected line identification restriction .....	36
4.1.1 General.....	36
4.1.2 Interrogation .....	36
4.2 Functions and information flows.....	36

4.3	Information stored in the HLR .....	39
4.4	State transition model .....	39
4.5	Transfer of information from HLR to VLR.....	40
4.6	Information stored in the VLR .....	40
4.7	Handover .....	40
4.8	Interworking .....	40
<b>Annex A (informative):</b>	<b>Mapping of CLI .....</b>	<b>41</b>
<b>Annex B (informative):</b>	<b>Change history .....</b>	<b>43</b>
History .....		44

**iTeh STANDARD PREVIEW**  
(standards.iteh.ai)

Full standard:  
<https://standards.iteh.ai/catalog/standards/sist/29007abb-34c3-4519-aeb8-dcc61337fccc/etsi-ts-123-081-v14.0.0-2017-04>

---

# Foreword

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

This TS defines the stage 2 of the line identification supplementary services for 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 this TS, it will be re-released by the TSG with an identifying change of release date and an increase in version number as follows:

Version 3.y.z

where:

- x the first digit:
  - 1 presented to TSG for information;
  - 2 presented to TSG for approval;
  - 3 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 specification;

**iTeh STANDARD PREVIEW**  
(standards.iteh.ai)  
Full standard:  
<https://standards.iteh.ai/catalog/standards/sist/9007abb1-34c3-4519-aeb8-dcc61337fccc/etsi-ts-123-081-v14.0.0-2017-04>

## 0 Scope

The present document gives the stage 2 description of the call identification supplementary services.

The group line identification supplementary services are divided into the following four supplementary services:

- Calling line identification presentation           CLIP            (clause 1);
- Calling line identification restriction           CLIR            (clause 2);
- Connected line identification presentation       COLP            (clause 3);
- Connected line identification restriction       COLR            (clause 4).

## 0.1 References

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

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

- [1]           3GPP TS 21.905: "3G Vocabulary".
- [2]           3GPP TS 23.011: "Technical Realization of Supplementary Services - General Aspects.
- [3]           3GPP TS 23.018: "Basic Call Handling; Technical realization".
- [4]           3GPP TS 22.081: "Line Identification supplementary services - Stage 1".

## 0.2 Definitions and abbreviations

### 0.2.1 Definitions

#### 0.2.1.1 Definition of line identity

The line identity is made up of the following information units:

- The subscriber's international ISDN/MSISDN number;
- Optionally subaddress information.

For mobile originated calls, the ISDN/MSISDN shall always be provided within the network. The subaddress shall only be included if it is provided by the user (or user equipment).

The calling line identity is the line identity of the calling party. The connected line identity is the line identity of the connected party.

The additional calling line identity provides additional line information for the purpose of the calling line identification presentation service (CLIP). The additional connected line identity provides additional line information for the purpose of the connected line identification presentation service (COLP).

For mobile originating calls the user (or user equipment) has no possibility to provide an additional line identity. For mobile terminating calls the user (or user equipment) has no possibility to provide an additional connected line identity.

### 0.2.1.2 Definition of presentation and screening indicators

In addition to, or instead of, the line identity or additional line identity, the network may send a presentation indicator (PI) together with a Cause of no CLI (CoNC) and/or a screening indicator (SI) to the MS as follows:

- Presentation Indicator:
  - a) Presentation allowed;
  - b) Presentation restricted;
  - c) Number not available.
- If the Presentation Indicator indicates "presentation restricted" the Cause of no CLI may give a diagnostic:
  - a) Unavailable;
  - b) Rejected by user;
  - c) Interaction with other services;
  - d) Coin line/ Pay phone.
- Screening indicator:
  - a) User provided, verified and passed;
  - b) User provided, not screened;
  - c) network provided.

The screening indicator applies to the ISDN/MSISDN or the number given as additional line identity respectively.

### 0.2.2 Abbreviations

Abbreviations used in the present document are listed in 3GPP TR 21.905.

## 1 Calling line identification presentation (CLIP)

### 1.1 Handling of calling line identification presentation

#### 1.1.1 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 1.1.

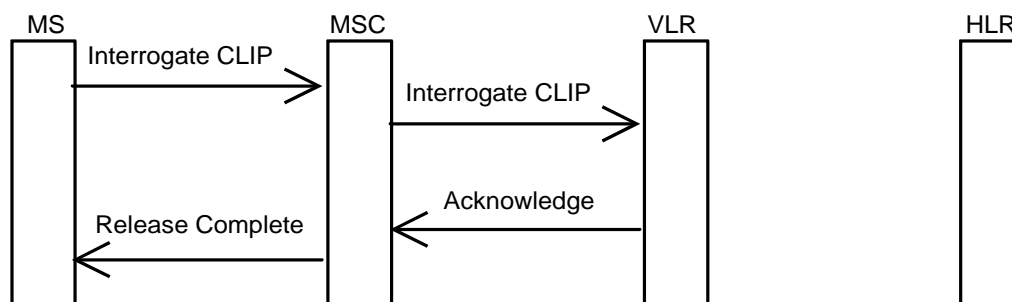


Figure 1.1: Interrogation of calling line identification presentation



## 1.2 Functions and information flows

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

### MAF001

Determination of the calling line identification presentation subscription

The ability of a PLMN component to determine whether the supplementary service is provisioned for the mobile subscriber. See figure 1.2.

Location: VLR.

### MAF002

Determination of the calling party number for offering to the called party

The ability of a PLMN component to determine and to forward the calling line identity and related indications to the called party. See figure 1.3.

Location: destination MSC.

The information flow is shown in figure 1.9.

**iTeh STANDARD PREVIEW**  
(standards.iteh.ai)  
Full standard:  
<https://standards.iteh.ai/catalog/standards/sist/29007abb-34c3-4519-aeb8-dcc61337fccc/etsi-ts-123-081-v14.0.0-2017-04>

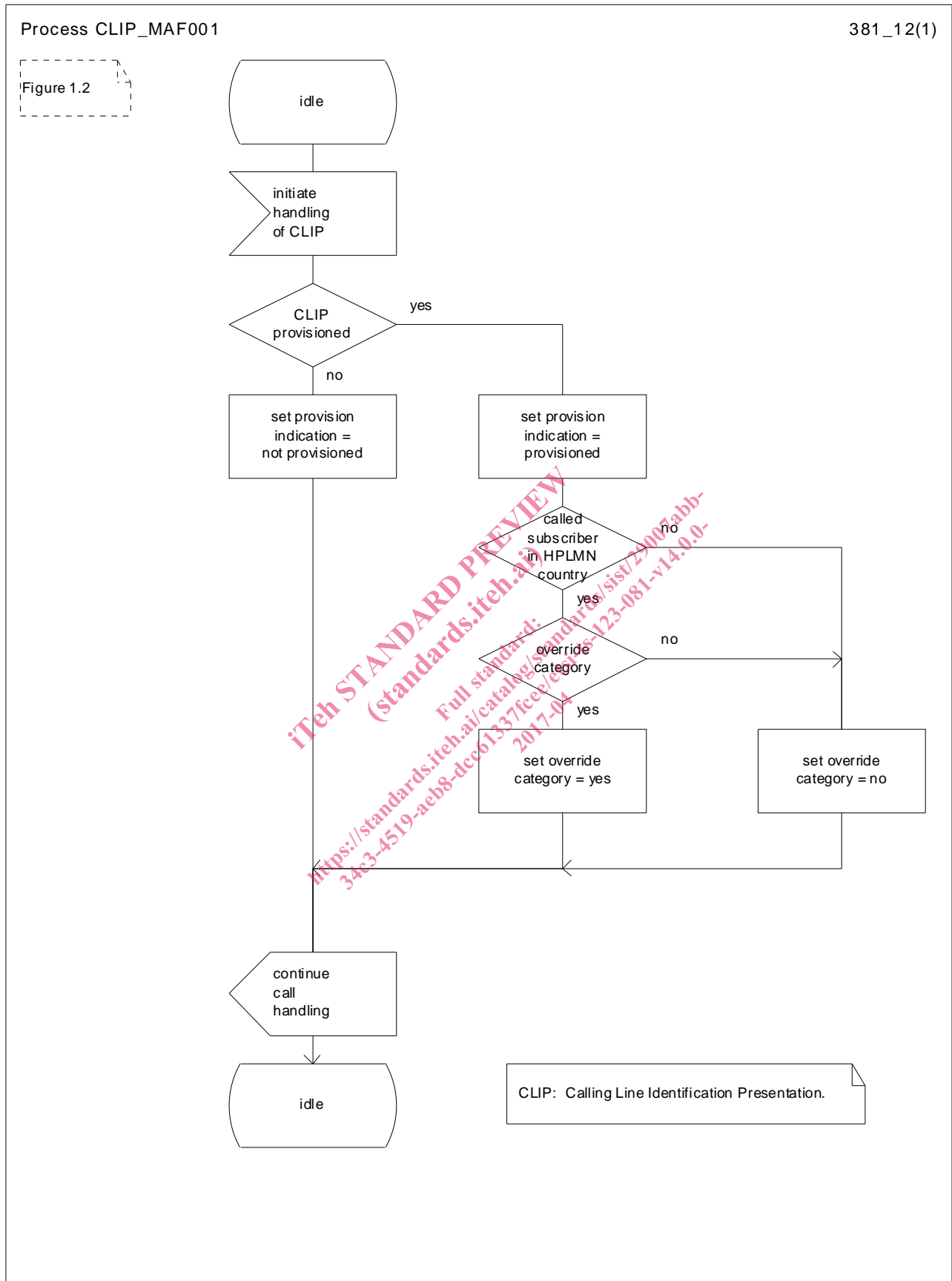


Figure 1.2: MAF001 Determination of calling line identification presentation subscription (VLR)

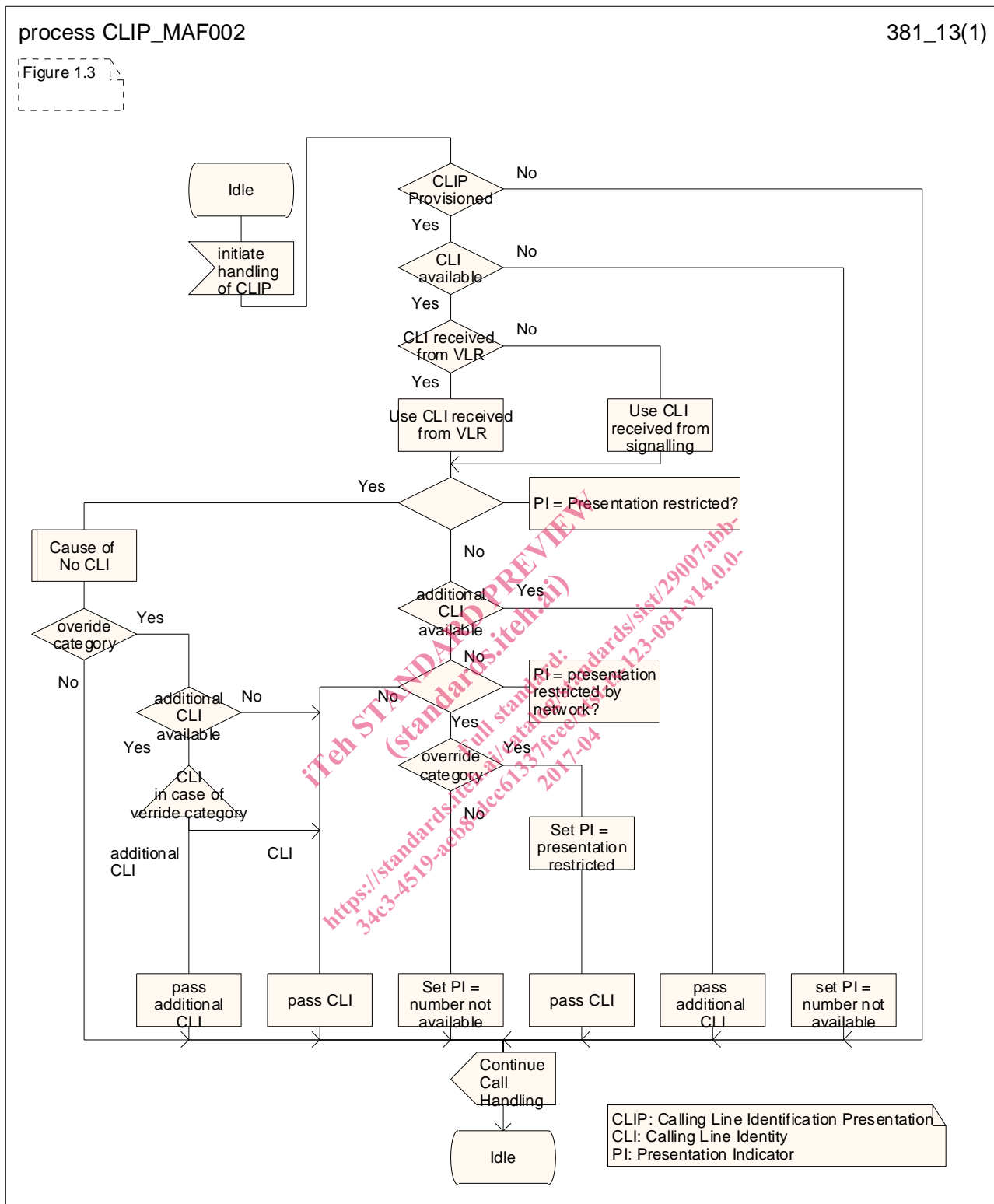


Figure 1.3: MAF002 Determination of the information for offering to the called party (destination MSC)

Procedure Cause\_of\_no\_CLI

1(1)



CoNC : Cause of no CLI

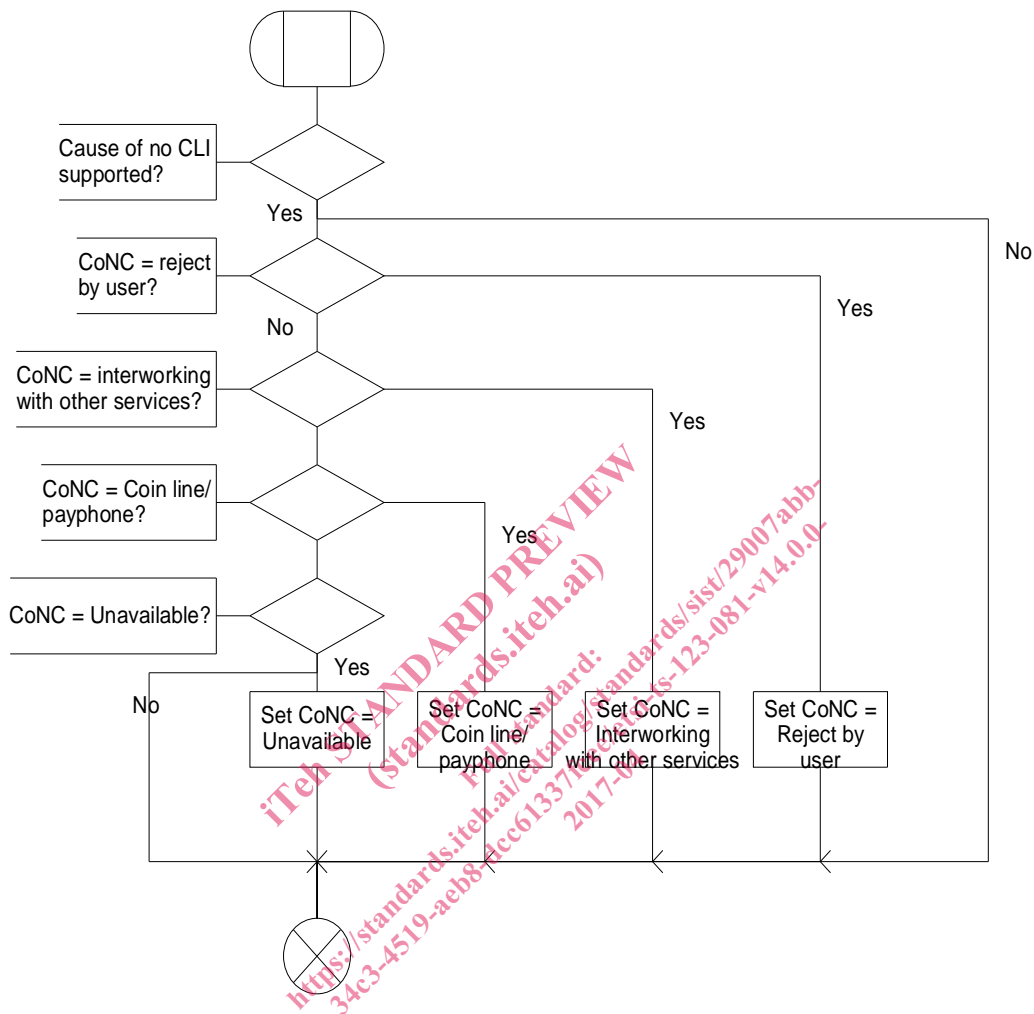


Figure 1.4: Procedure Cause\_of\_no\_CLI