INTERNATIONAL TELECOMMUNICATION UNION

CCITT

THE INTERNATIONAL
TELEGRAPH AND TELEPHONE
CONSULTATIVE COMMITTEE

Q.81.5

(11/1988)

SERIES Q: SWITCHING AND SIGNALLING

Functions and information flows for services in the ISDN – Supplementary services

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NUMBER IDENTIFICATION SUPPLEMENTARY SERVICES – CONNECTED LINE IDENTIFICATION PRESENTATION (COLP)

Reedition of CCITT Recommendation Q.81.5 published in the Blue Book, Fascicle VI.1 (1988)

NOTES

1 CCITT Recommendation Q.81.5 was published in Fascicle VI.1 of the *Blue Book*. This file is an extract from the *Blue Book.* While the presentation and layout of the text might be slightly different from the *Blue Book* version, the contents of the file are identical to the *Blue Book* version and copyright conditions remain unchanged (see below).

2 In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

Recommendation Q.81.5

NUMBER IDENTIFICATION SUPPLEMENTARY SERVICES

5 Connected Line Identification Presentation (COLP)

5.1 *General*

connected line identification presentation (COLP) is a supplementary service offered to the calling party which provides the connected party's ISDN-number to the calling party.

5.2 *Description*

5.2.1 *General description*

When COLP is applicable and activated, the network provides the calling party with the number of the connected party when the called party responds positively to the incoming call. The network should be capable of transmitting at least 15 digits (maximum length of an ISDN number).

5.2.2 *Specific terminology*

None identified.

5.2.3 *Qualifications on the applicability to telecommunication services*

This supplementary service is applicable to all telecommunication services.

It is to be noted that in the Telematic services, an exchange of Terminal Identification (TID) occurs at a higher layer subsequent to a successful call establishment.

For Telematic services, this supplementary service shall consist only of the access number of the connected party and this shall be provided by the network. For other non-voice services, this supplementary service is for further study. The presentation of the COLI by Telematic terminals and by other non-voice terminals is for further study.

5.3 *Derivation of a functional model*

This part of the description is common with the service Connected Line Identification Restriction (COLR) since this service has some impact on Connected Line Identification Presentation.

The model used for illustrating the "Connected Line Identification Services" procedures is given in Figure 5-1/Q.81 below.

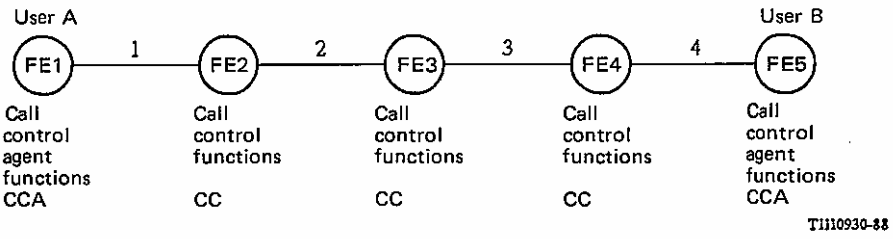


FIGURE 5-1/Q.81

Model for connected line identification services

5.4 *Information flow diagrams*

The Connected Line Identity information needed to provide the Connected Line Identification Services is normally carried in the messages indicating that the call has been answered.

The original Connected Line Identity will be delivered to the calling party by his local exchange and/or ISPBX when the call enters the active state if the Connected Line Identity is available and presentation is allowed.

If Connected Line Identity is not available in the originating local or transit exchange at call connection time, the exchange may optionally request the Connected Line Identity from the destination local exchange.

The specifications of functions for COLP include adaptions for private network applications (in a full private network environment) and mobile network applications. Private Network/Public ISDN interworking situations are for further study.

The Connected Line Identity is made up of a number of information units:

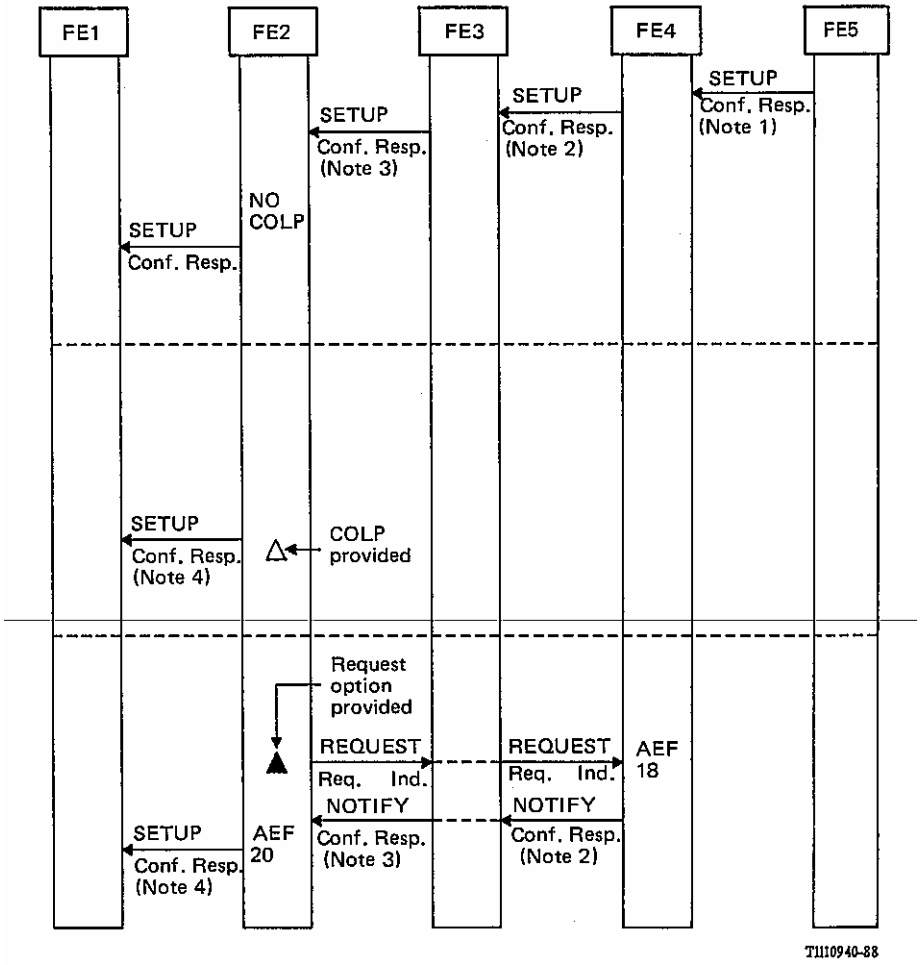
- the subscriber's national (ISDN) number, or
- private network number, or
- international ISDN-number and possibly other indications only for international calls, or
- partial number (optional) (Note 1);
- optionally, sub-address information, if explicitly provided by the calling user;
- numbering plan identification;
- type of address.

In addition to the Connected Line Identity, the subscriber may be given the following information:

- Presentation Indicator showing:
  a) presentation allowed, or
  b) presentation restricted, or
  c) number not available due to interworking (Note 2);
- Screening indicator showing:
  a) User provided, verified and passed, or
  b) network provided.

Note 1 – For international calls, the partial number may be the international prefix and the country code. For national calls, the partial number may be the trunk prefix and the area code.

Note 2 – The technical solutions for the various interworking arrangements with dedicated networks have not been detailed in this Recommendation.



In case of a national call, the FE3 is not needed.

FIGURE 5-2/Q.81

Information flows for combined public and private configurations

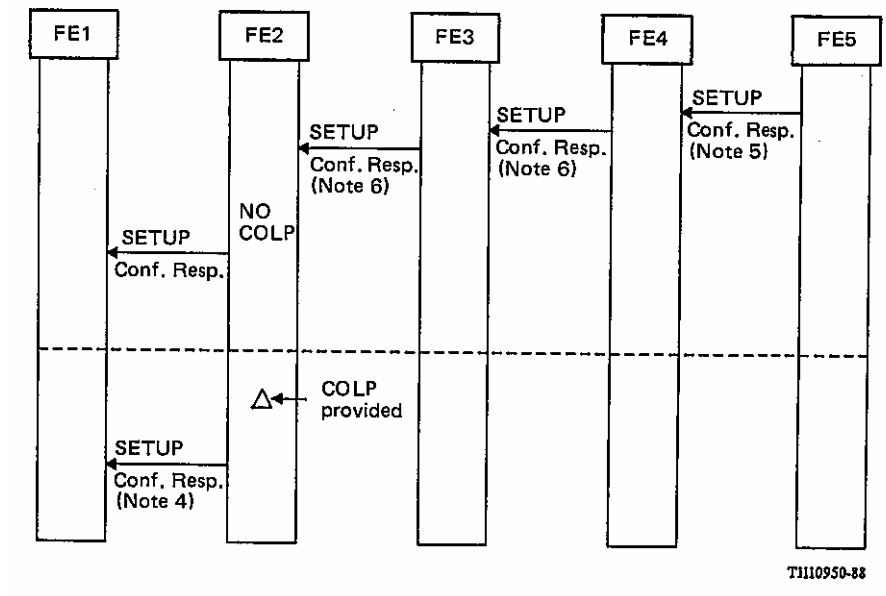


FIGURE 5-3/Q.81

Information flows for private network configurations

Notes to Figures 5-2/Q.81 and 5-3/Q.81

Note 1 – The information flow contains:

- no information (should not be permitted for DDI-ISPBX in some networks);
- part of the subscriber number (extension number, selection on a passive bus);
- subscriber number;
- national number;
- international number (for mobile applications);
- numbering plan identification;
- type of address;
- presentation indicator;
- optional: sub-address.

Note 2 – The information flow contains:

- national number;
- if present: sub-address;
- international number;
- presentation indicator (allowed/restricted/not available due to interworking);
- screening indicator (network provided/subscriber provided, verified and passed);
- type of address;
- numbering plan identification.

Note 3 – The information flow contains:

- international number;
- no information (e.g., presentation restriction);
- if present: sub-address;
- presentation indicator (allowed/restricted/not available due to interworking);
- screening indicator (network provided/subscriber provided);
- type of address;
- numbering plan identification.

Note 4 – The information flow contains:

- no information (depending on indicators);
- national number (for national calls);
- international number (for international calls);
- if present: sub-address;
- presentation indicator (allowed/restricted/not available due to interworking);
- screening indicator (network provided/subscriber provided, verified and passed);
- type of address;
- numbering plan identification:

Note 5 – The information flow contains:

- no information;
- part of the extension number (e.g., selection on a passive bus);
- extension number or private network number;
- optional: sub-address;
- type of address;
- numbering plan identification.

Note 6 – The information flow contains:

- extension number or private network number;
- if present: sub-address;
- presentation indicator (allowed/restricted/not available due to interworking);
- screening indicator (private network provided/user provided, verified and passed);
- type of address;
- numbering plan identification.

5.5 *SDL diagrams for functional entities*

FE4 – Determination of the Connected Line Identity – Destination side

The ability of an ISDN component to determine the Connected Line Identity and if present, the sub-address. The Connected Line Identity may contain prefixes. In public network, the Connected Line Identity is the national ISDN Number, in private network the private Network Number and in mobile network the International ISDN Number.

FE3 – Determination of the International Connected Line Identity

The ability of an ISDN component to determine the International Connected Line Identity and if present, the sub-address.

FE2 – Determination of the Connected Line Identity – Originating side

The ability of an ISDN component to determine the Connected Line Identity and if present, the sub-address. In some networks, the Connected Line Identity sent to an extension connected to an ISPBX shall contain the outgoing prefix.

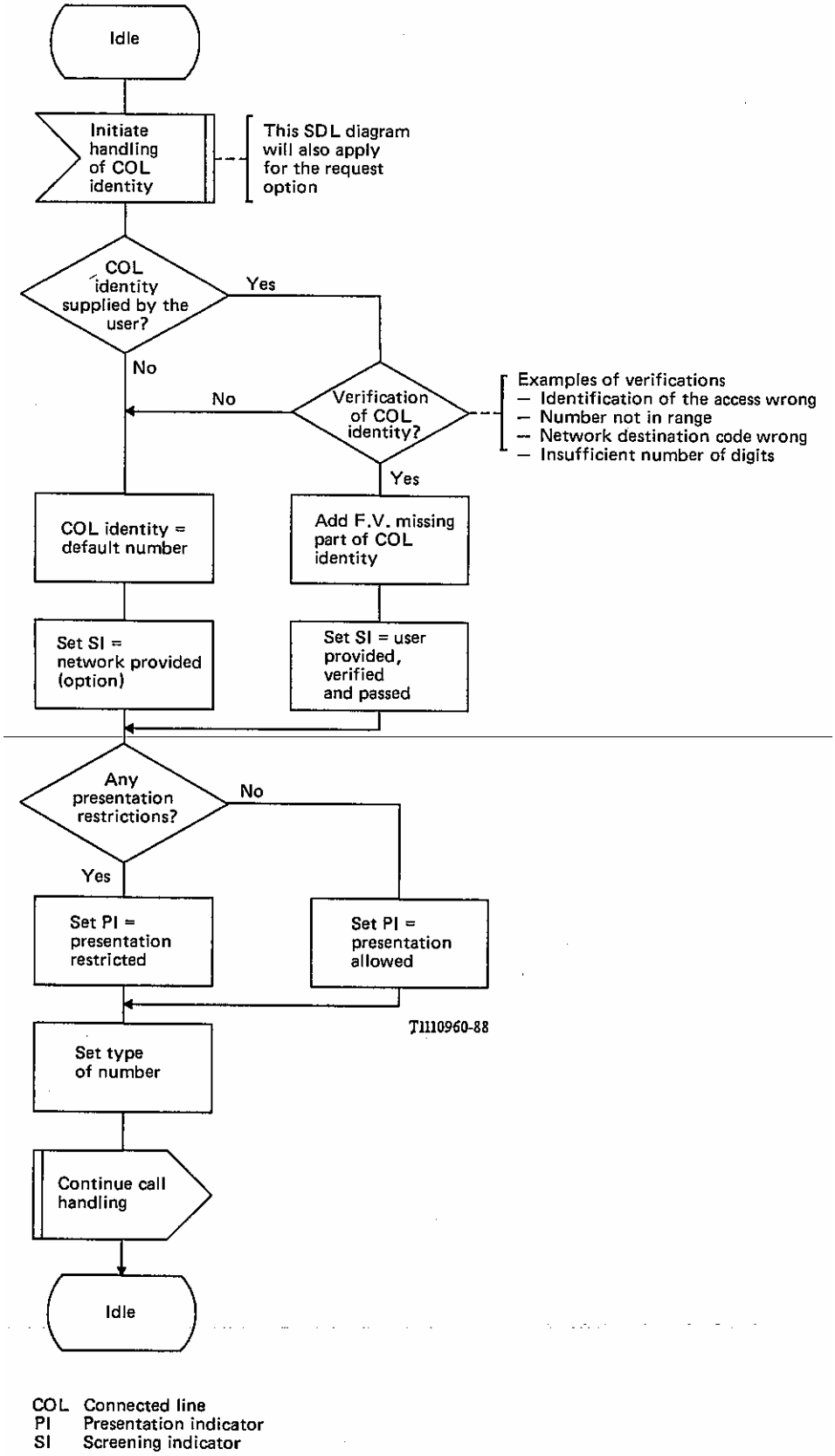


FIGURE 5-4/Q.81

FE4 – Determination of the connected line identity – destination side

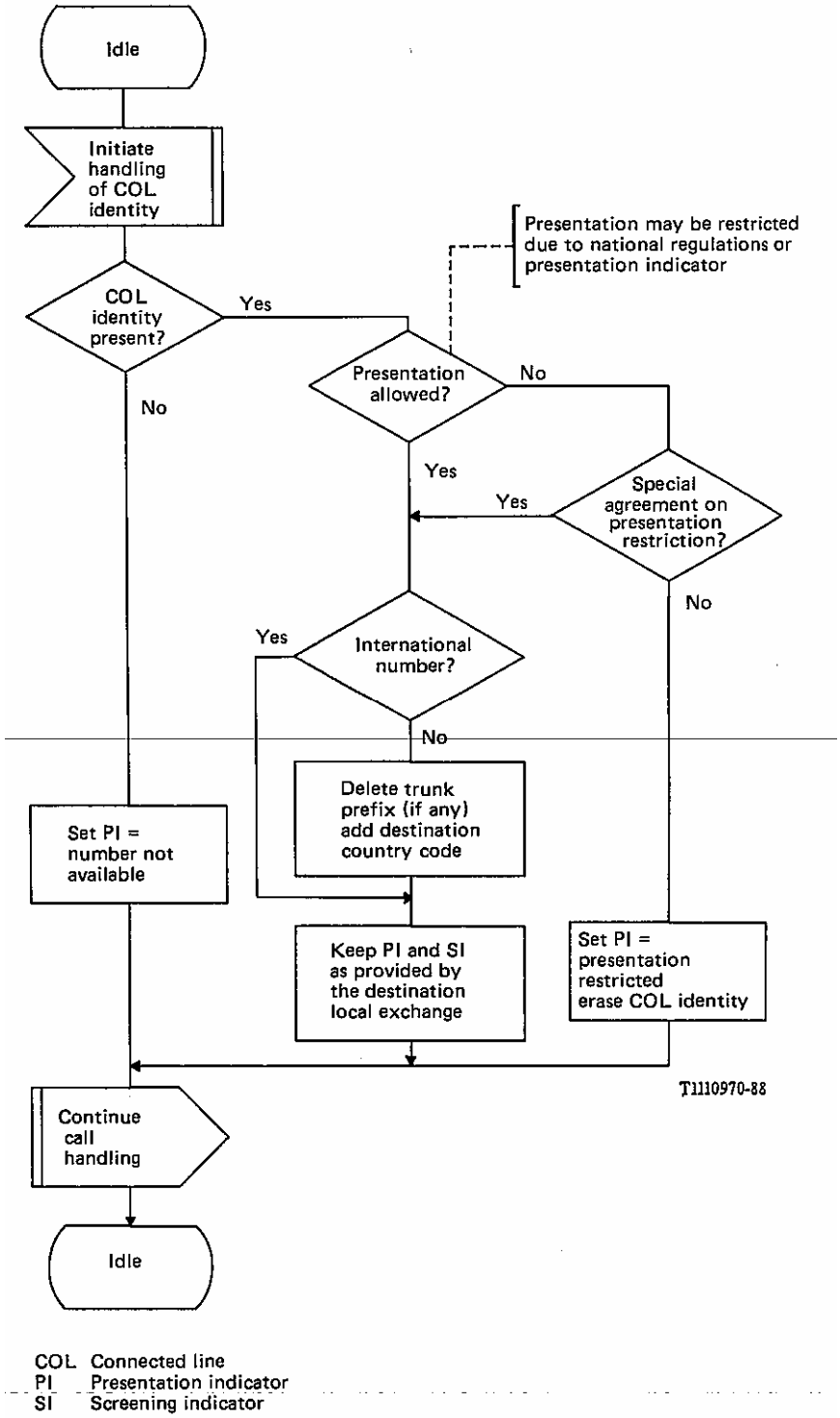


FIGURE 5-5/Q.81 (Sheet 1 of 2)

FE3 – Determination of the international connected line identity

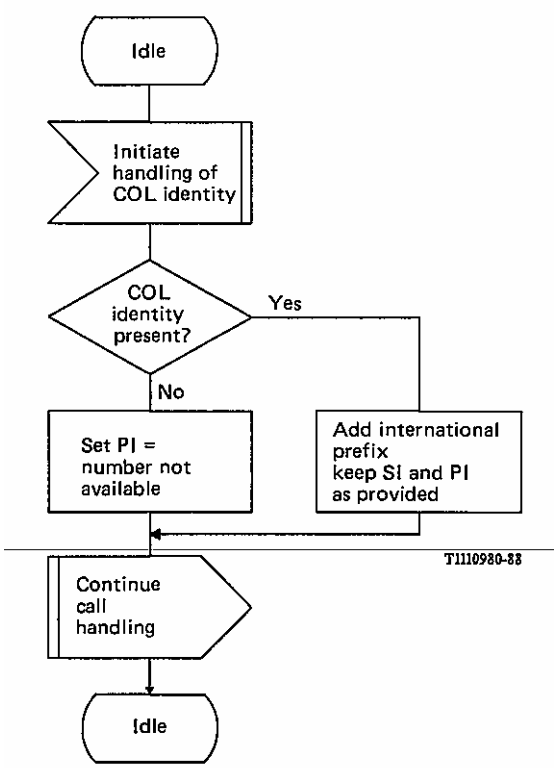


FIGURE 5-5/Q.81 (Sheet 2 of 2)

FE3 – Determination of the international line identity

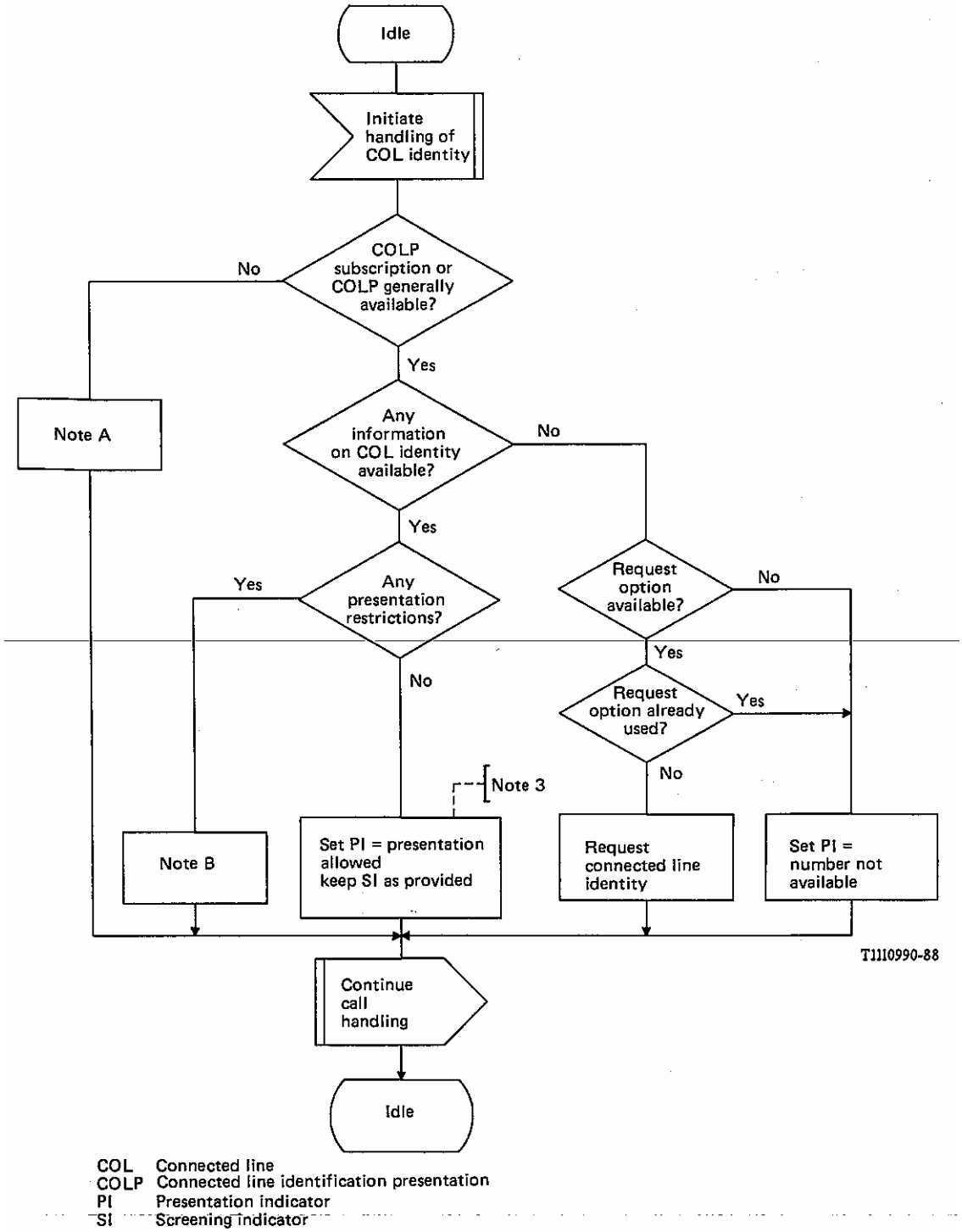


FIGURE 5-6/Q.81

FE2 – Determination of the connected line identity – originating side

Notes to Figure 5-6/Q.81

Note A – No information about the connected line. Identity is sent to the calling party.

Note B – Set IP presentation restricted. Address information will not be presented to the calling party.

Note 1 – Presentation may be restricted or overridden due to national regulations or presentation restriction.

Presentation restriction may be overridden due to the called party's category (e.g. police).

Note 2 – The request option is not supported by private networks.

Note 3 – In the case where the address information is not available due to interworking, only the indicators are presented for the user.

5.6 *Functional entity actions*

5.6.1 *Functional entity actions for FE2*

- check COLP subscription;
- check if Connected Line is provided;
- request Connected Line Identify (optional);
- check for COLR and if presentation allowed, pass COLI to FE1.

5.6.2 *Functional entity actions for FE3*

- check if Connected Line Identity may be passed between administrations;
- at the destination side: provide international number;
- at the originating side: add international prefix.

5.6.3 *Functional entity actions for FE4*

- check if Connected Line Identity is provided from the user;
- verify (and complete) Connected Line Identity;
- set PI and SI;
- set type of number.

5.7 *Allocation of functional entities to physical location*

Functional entity / Scenario	FE1	FE2	FE3	FE4	FE5
National call	TE	LE		LE	TE
International call	TE	LE	TR	LE	TE
Call between NT2s	NT2	LE	(TR)	LE	NT2
Call between NT2-TE	NT2	LE	(TR)	LE	TE
National private network	TE	NT2		NT2	TE
International private network	TE	NT2	TR/NT2	NT2	TE

Note – (TR) means that this functional entity is included in the case of international calls.

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