



Guide

for

Calling Line Identity (CLI)

IDA GUIDE CLI

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Info-Communications Development Authority of Singapore
Equipment and Cabling Regulation Department
8 Temasek Boulevard
#14-00 Suntec Tower Three
Singapore 038988

<http://www.ida.gov.sg>

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NOTICE

This Guide is subject to review and revision.
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1. SCOPE

The purpose of this Guide is to provide general information relating to the conveying of Calling Line Identity (CLI) in a typical call routing arrangement as shown in Figure 1. Networks of the SBO/FBO/PTL are interconnected at the network-node interface (NNI) using SS No. 7 and the ISUP or the SBOs are connected at the user-network interface (UNI) using DSS 1 with ISDN primary rate access.

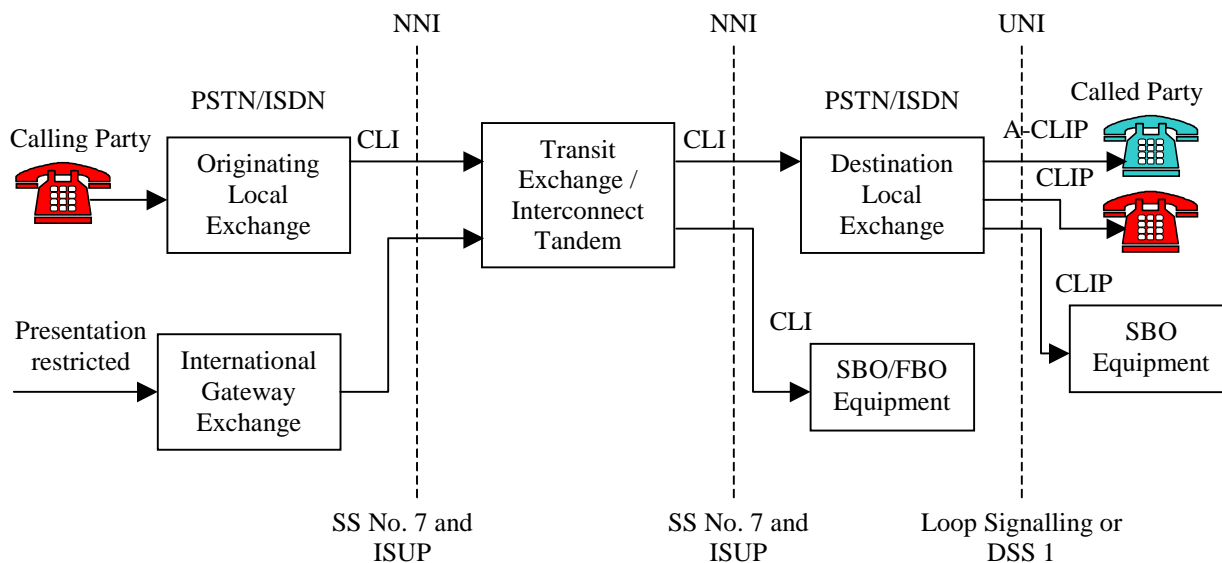


Figure 1: An example of passing of CLI information

2. SPECIFIC TERMINOLOGIES

- | | |
|-------------------------------|---|
| CLI | – Calling Line Identity is the number (information) identifying the calling party. |
| Called user/party | – The user/party to which a call is made. It is the called party who receives the Calling Line Identity (CLI) of the calling party. |
| Calling user/party | – The user/party that initiates the procedures to establish a call connection to the served user. The calling user/party does not need to subscribe to the CLIP supplementary service. |
| Served user | – It is the user of a particular subscriber number who has subscribed to presentation of the calling line identification information in association with incoming calls. |
| Subscriber Number (SN) | – The number identifying a subscriber in a network. |
| Default number | – A national (significant) number registered within the public network. |
| National (significant) Number | – That portion of the number that follows the country code for geographic areas. The national (significant) number consists of the National Destination Code (NDC) followed by the Subscriber Number (SN). The function and format of the N(S)N is nationally determined (ITU-T |

- Recommendation E.164).
- A-CLIP
- The Analogue Calling Line Identification Presentation (A-CLIP) is a supplementary service for the Public Switched Telephone Network (PSTN) provided by the network operators.
 - The A-CLIP supplementary service provides the served user with the possibility of receiving identification of the calling party.
 - The PSTN shall deliver the Calling Line Identity (CLI) to the served user during call establishment, during the first long silent interval of the ringing phase (refer to IDA TS PSTN 1 A-CLIP).
- CLIP
- The Calling Line Identification Presentation (CLIP) is a supplementary service for the Integrated Services Digital Network (ISDN) provided by network operators by means of the Signalling System No. 7 (SS No. 7) protocol for the ISDN User Part (ISUP).
 - The CLIP is a supplementary service offered to the called party that provides the calling party's ISDN number, possibly with sub-address information, to the called party.
- CLIR
- The Calling Line Identity Restriction (CLIR) is a supplementary service offered to the calling party to restrict presentation of the calling party's number to the called party.
- ISDN number
- A number conforming to the numbering plan and structure specified in ITU-T Recommendation E.164.
- ISDN
- Integrated Services Digital Network is a network that provides digital connections between user-network interfaces (UNI).
- SS No. 7
- Signalling System Number 7 is an internationally standardised general-purpose common channel signalling system (refer to draft IDA RS SS7 with cross-references to ITU-T Recommendation Q.702 to Q.704).
- ISDN User Part (ISUP)
- This encompasses the signalling functions in SS No. 7 required to provide switched services and user facilities for voice and non-voice applications in the ISDN (refer to draft IDA RS SS7 with cross-references to ITU-T Recommendation Q.761 to Q.764).
- DSS 1
- Digital subscriber Signalling System No. 1 is the signalling system for establishing, maintaining, and clearing of network connections at the ISDN user-network interface (refer to IDA TS ISDN 2 with cross-references to ITU-T Recommendation I.431, Q.921 and Q.931).
- UNI
- User-Network Interface is the interface between the terminal equipment and a network termination at which the interface access protocols apply.
- NNI
- Network Node Interface is the interface between two network nodes (e.g. digital exchanges).
- Access signalling system
- A part in the local exchange which handles the user-network interface protocol.
- FBO
- IDA licenses Facilities-Based Operators for deploying telecommunication networks, systems and facilities to offer

telecommunication switching and/or transmission capacity and/or telecommunication services to other licensed telecommunication operators; businesses; and/or consumers.

- SBO – IDA licenses Service-Based Operators to provide telecommunication services to third parties or resell the telecommunication services of Facilities-Based Operators.
- PTL – Public Telecommunication Licensee

3. USE OF CALLING LINE IDENTITY (CLI) INFORMATION

3.1 CLI shall be passed between interconnected networks for all calls subject to CLI being forwarded from the originating local exchange (an example is given in Figure 1). The destination local exchange may not use the CLI other than following purposes:

- (a) Identification of the origin of a call
- (b) Disclosure to the called party as part of the supplementary service provision for the CLIP
- (c) Disclosure to law enforcement agencies for malicious call identification

3.2 The CLI is inserted as the calling party number parameter (3.10/Q.763) in the initial address message (Table 32/Q.763) that is sent as part of the basic call procedures according to ITU-T Recommendation Q.764. The calling party number (CPN) parameter shall have numbering plan indicator (NPI) set to “ISDN (Telephony) numbering plan (ITU-T Recommendation E.164). The calling party sub-address (if provided by the user equipment) shall be transported transparently by the network in the access transport parameter (3.3/Q.763).

4. SIGNALLING REQUIREMENTS

4.1. Actions at the originating local exchange

4.1.1 The calling party number (CPN) shall be provided by the originating local exchange or by the access signalling system of the calling user. The calling party sub-address (if provided by the access signalling system) shall be transported transparently by the network in the access transport parameter. The network cannot be responsible for the content of this sub-address.

4.1.2 Information indicating that a subscriber has the CLIP supplementary service facility is available in the exchange to which the subscriber is connected. However, the CLIR supplementary service shall take precedence over the CLIP supplementary service. Depending on bilateral agreement, the originating network may restrict the information conveyed in the generic number (GN) and/or calling party number (CPN) parameter from being sent to the destination network when the CLIR supplementary service is applicable. The implementation of GN is an option and is subject to discussion with network operators.

4.1.3 At the originating local exchange, the operation of the ISUP protocol for CLI is in accordance with the dynamic description as shown in Figure 2 (Figure 3-1/Q.731). The implementation of GN is an option and is subject to discussion with network operators.

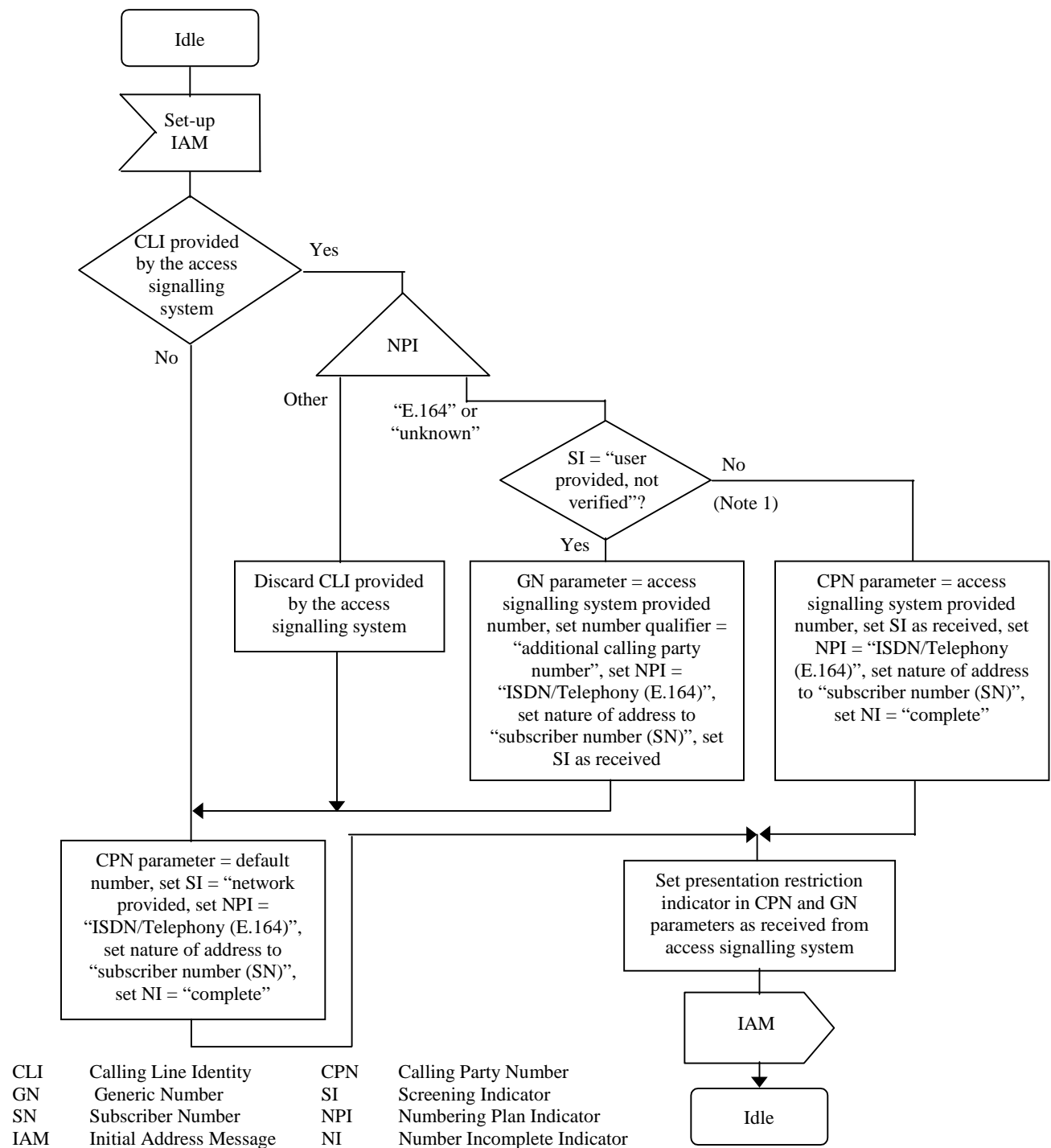
4.2 Actions at the transit exchange

A transit exchange shall transfer all information relating to the CLIP and CLIR supplementary services transparently to the succeeding exchange.

4.3 Actions at the destination local exchange

4.3.1 When the destination local exchange receives an initial address message, basic call handling shall occur and the exchange shall send a set-up request to the access signalling system. It is a function of the user-network interface to check whether the called user has subscribed to the CLIP supplementary service or not and not to present the calling party sub-address, where appropriate, to the user.

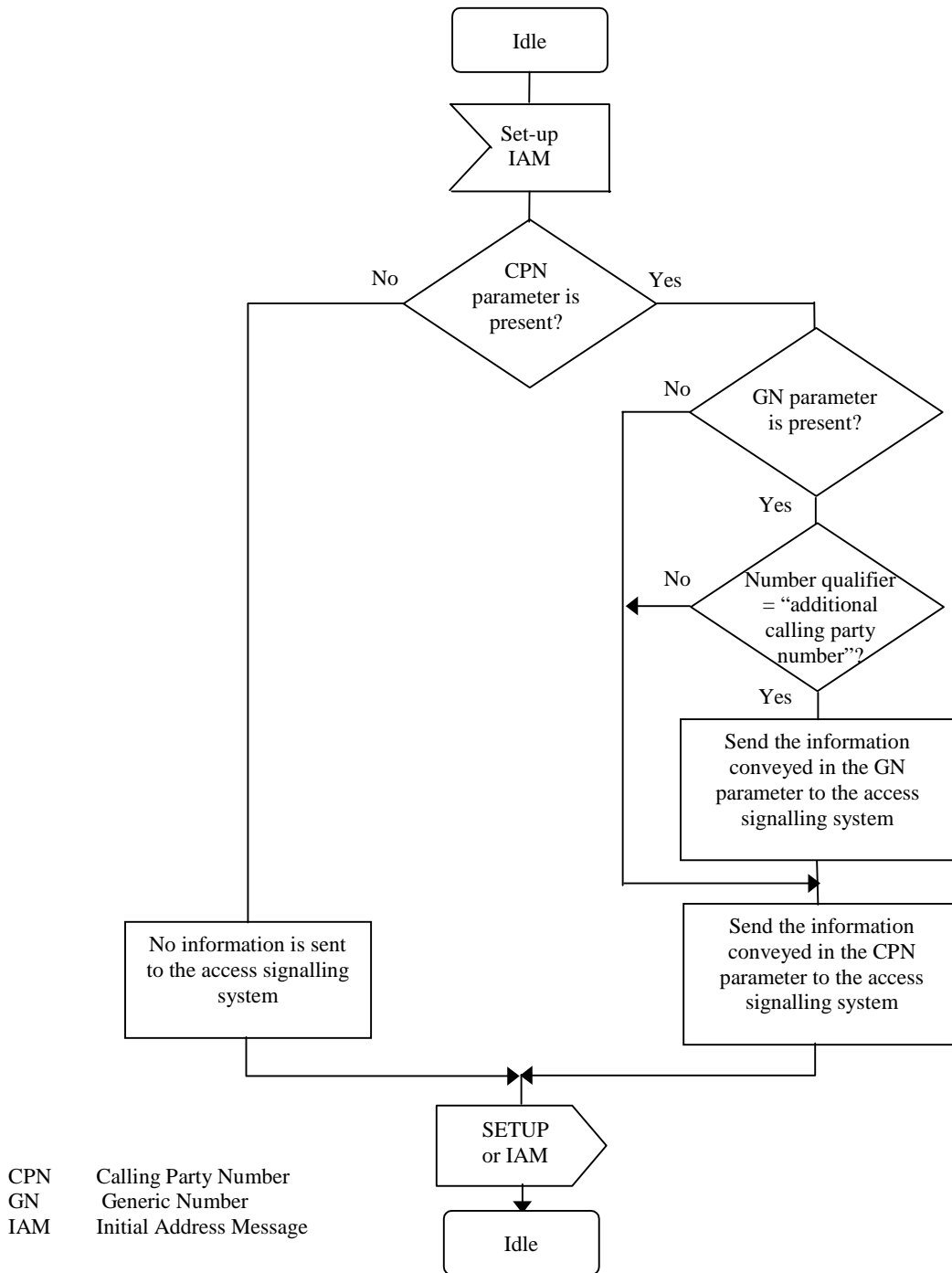
4.3.2 At the destination local exchange, the operation of the ISUP protocol for CLI is in accordance with the dynamic description as shown in Figure 3 (Figure 3-4/Q.731).



NOTES

- 1 As a national option, some networks may allow for the screening indicator "user provided and failed". If this screening indicator is supported, then the originating local exchange shall treat this value in the same manner as the value "user provided, not verified".
- 2 This procedure operates independently from any CLIP subscription by the calling user and is provided as part of the basic service.
- 3 This transmission specifies additional processing to that described in Q.764, Annex H.

Figure 2 (refer to FIGURE 3-1/Q.731):
Originating local exchange dynamic description of the ISUP protocol



NOTES

- 1 It is a function of the access signalling system to check if the CLIP supplementary service is applicable and not to present presentation restricted numbers to the called user.
- 2 The request option is not supported by the private networks (identity always included). The request procedure can only be used to obtain the calling line identity in case of malicious call identification supplementary service.
- 3 This transition specifies additional processing to that described in Annex H/Q.764.

Figure 3 (refer to FIGURE 3-4/Q.731):
Destination local exchange dynamic description of the ISUP protocol

5. REFERENCES

- | | |
|--|--|
| ITU-T Recommendation Q.731
(March 1993) | Stage 3 Description for Number Identification
Supplementary Services using Signalling System No. 7
Clause 3 – Calling Line Identification Presentation
(CLIP)
Clause 4 – Calling Line Identification Restriction
(CLIR) |
| ITU-T Recommendation Q.763
(September 1997) | Signalling System No. 7 – ISDN user part formats and
code |
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(September 1997) | Signalling System No. 7 – ISDN user part signalling
procedures |
| ETS 300 648 (March 1997) | Public Switched Telephone Network (PSTN); Calling
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| EN 300 356-3 V3.1.3 (1998-08) | Integrated Services Digital Network (ISDN); ISDN User
Part (ISUP) version 3 for the international interface; Part
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Supplementary Service |
| EN 300 356-4 V3.1.3 (1998-08) | Integrated Services Digital Network (ISDN); ISDN User
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Supplementary Service |