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DIGITAL SUBSCRIBER SIGNALLING SYSTEM No. 1

STAGE 3 DESCRIPTION FOR SUPPLEMENTARY SERVICES USING DSS 1

STAGE 3 DESCRIPTION FOR NUMBER IDENTIFICATION SUPPLEMENTARY SERVICES USING DSS 1

Clause 3 – Calling Line Identification Presentation (CLIP)
Clause 4 – Calling Line Identification Restriction (CLIR)
Clause 5 – Connected Line Identification Presentation (COLP)
Clause 6 – Calling Line Identification Restriction (COLR)

ITU-T Recommendation Q.951

(Previously "CCITT Recommendation")

FOREWORD

The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of the International Telecommunication Union. The ITU-T is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

The World Telecommunication Standardization Conference (WTSC), which meets every four years, established the topics for study by the ITU-T Study Groups which, in their turn, produce Recommendations on these topics.

ITU-T Recommendation Q.951, clauses 3, 4, 5 and 6 was prepared by the ITU-T Study Group XI (1988-1993) and was approved by the WTSC (Helsinki, March 1-12, 1993).

NOTES

1 As a consequence of a reform process within the International Telecommunication Union (ITU), the CCITT ceased to exist as of 28 February 1993. In its place, the ITU Telecommunication Standardization Sector (ITU-T) was created as of 1 March 1993. Similarly, in this reform process, the CCIR and the IFRB have been replaced by the Radiocommunication Sector.

In order not to delay publication of this Recommendation, no change has been made in the text to references containing the acronyms "CCITT, CCIR or IFRB" or their associated entities such as Plenary Assembly, Secretariat, etc. Future editions of this Recommendation will contain the proper terminology related to the new ITU structure.

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

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STAGE 3 DESCRIPTION FOR NUMBER IDENTIFICATION SUPPLEMENTARY SERVICES USING DSS 1

(Helsinki, 1993)

3 Calling Line Identification Presentation (CLIP)

3.1 Definition

calling line identification presentation (CLIP) is a supplementary service offered to the called party which provides the calling party's ISDN number, possibly with sub-address information to the called party.

3.2 Description

3.2.1 General description

This supplementary service provides the ability of indicating the ISDN number of the calling line, with possible additional sub-address information (i.e. the Calling party sub-address information element), to the called party.

The information provided to the called user consists of the ISDN number of the calling user in a form sufficient to allow the returning of the call (i.e. a subscriber number, a national number or an international number and optionally a sub-address if provided by the calling user).

3.2.2 Specific terminology

For the purposes of this Recommendation, the following terms apply:

A **served user** is the user of a particular ISDN number who has subscribed to the presentation of the calling line identification information in association with incoming calls. The served user is also known as the called user.

A **calling user** is the user that initiated an incoming call at the served user. The calling user need not have subscribed to the Calling Line Identification Presentation supplementary service.

An **ISDN number** is a number conforming to the numbering plan structure specified in Recommendation E.164.

An **address** is the number of the calling user (normally ISDN number), and a sub-address if provided by that user.

An **international number** is an ISDN number structured as specified in Recommendation E.164.

A **national number; national significant number** is an ISDN number structured as specified in Recommendation E.164.

A **subscriber number** is an ISDN number structured as specified in Recommendation E.164.

A **default number** is an agreed number between the user at the calling side and the network provider.

A **special arrangement** is an arrangement between a customer and a public network operator whereby customer supplied calling numbers are not screened by the public ISDN.

CLIP Calling Line Identification Presentation

CLIR Calling Line Identification Restriction

3.2.3 Qualification on the applicability to telecommunication services

See Recommendation I.251.3.

3.2.4 State definitions

No specific state definitions are required.

3.3 Operational requirements

3.3.1 Provision/withdrawal

See Recommendation I.251.3.

NOTE – Annex A contains some additional procedures to support the two Calling party number information elements delivery option. This is a network option.

3.3.2 Requirements on the originating network side

All information pertaining to CLIP, shall be inserted in the SETUP message sent as part of the basic call procedures according to 5/Q.931.

In the case where no information is provided by the calling user (as part of the basic call procedures) the network shall provide the default number associated with the user access (in which the call was generated) in the originating local exchange.

When the calling party information is provided by the user, the network can only verify that the number is within the range allocated to that user.

Where a special arrangement exists with the calling user, no screening of the calling number they supplied, shall be performed.

3.3.3 Requirements in the network

This subclause is not applicable to DSS 1.

3.3.4 Requirements on the destination network side

See 3.5.2.3.

3.4 Coding requirements

All information pertaining to CLIP is inserted in the SETUP message. 4.5.10/Q.931 and 4.5.11/Q.931 give the coding for the Calling party number and Calling party sub-address information elements which are required to support this service. The purpose of the Calling party number information element is to identify the origin of a call. The purpose of the Calling party sub-address information element is to identify a sub-address associated with the origin of the call.

3.5 Signalling requirements

3.5.1 Activation/deactivation/registration

Not applicable.

3.5.2 Invocation and operation

3.5.2.1 Actions at the originating local exchange

3.5.2.1.1 Normal operation

3.5.2.1.1.1 Actions at the originating user

These procedures shall be provided as part of the basic service and the calling user need not have subscribed to the CLIP supplementary service.

The numbering plan identification, to be indicated with the Calling party number information element, sent by the calling user, shall be either "ISDN/telephony numbering plan" (see Recommendation E.164) or "unknown".

NOTE – Either coding may be used and the treatment of both by the network is identical.

Where the calling number included by the calling user is complete the type of number to be indicated within the Calling party number information element, sent by the calling user, shall be one of the following:

– "*Subscriber number*" – In the case where the complete subscriber number is sent.

– "*National number*" – In the case where the complete national number is sent.

– "*International number*" – In the case where the complete international number is sent.

Where a partial calling number is included by the calling user (e.g., to indicate digits specific to the Direct-Dialling-In or the Multiple Subscriber Number supplementary services) the user shall set the type of number to be indicated within the Calling party number information element to "unknown".

3.5.2.1.1.2 Actions at the originating local exchange if a special arrangement does not apply

These procedures shall be provided as part of the basic service and the calling user need not have subscribed to the CLIP supplementary service.

When a SETUP message is received from the calling user, the network shall check to see if the Calling party number and Calling party sub-address information elements are included.

If the Calling party number information element is received with a coding of the numbering plan identification field other than "ISDN/telephony numbering plan" (see Recommendation E.164) or "unknown", then the network shall discard the Calling party number information element and process the call as if that information was not received.

The network shall set the value of the screening indicator based on the outcome of the screening of the calling number. The network shall disregard any value of the screening indicator, if received from the calling user.

If the Calling party number information element is included, the network shall perform the screening function.

NOTE 1 – Some networks may accept a full ISDN number in a Calling party number information element with the addition of a prefix or escape digits to the number digits field and the type of number field set to "unknown".

If the calling number received from the calling user is determined to be correct, the network shall set the screening indicator to "user-provided, verified and passed".

If the screening function fails the network shall note that the screening is failed and shall use a default number associated with the calling user. The network shall set the screening indicator to "network provided".

If the SETUP message does not contain the Calling party number information element the network shall use a default number associated with the calling user. The network shall set the screening indicator to "network provided".

In the case where the calling user provides only partial calling number information and the number is a valid digit sequence for the user access arrangement, the network shall complete the number as appropriate. The network shall set the screening indicator to "user-provided, verified and passed".

NOTE 2 – In some cases the network cannot guarantee that the completed number identifies an end user.

The information determined by the procedures above, shall be forwarded to the destination local exchange, in association with the basic call request.

The presentation indicator, as determined by the procedures of the CLIR supplementary service (see clause 4), shall be forwarded to the destination local exchange, in association with the basic call request.

If the Calling party sub-address information element is available, it shall be passed transparently through the network.

The actions at the originating local exchange when special arrangement does not apply are summarized in Table 3-1.

TABLE 3-1/Q.951

Information provided by the calling user and by the network when special arrangement does not apply

Information provided by the calling user		Information provided by the network to the called user		
Calling number received from the calling user (octet 4)	Type of number (octet 3)	Calling number forwarded (if CLIR is not activated) (octet 4)	Screening indicator forwarded (octet 3a)	Type of number forwarded (octet 3)
No calling party number information element is provided by the calling user		Default number stored at the network side sufficient for returning the call	Network provided	"International number" or "national number" (Notes 1, 7)
Valid part of the number not sufficient for returning the call (Note 2)	"Unknown"	Completion of the number (Note 3)	User-provided verified and passed (Note 4)	"International number" or "national number" (Notes 1, 7)
Correct complete calling party number (Note 5)	"Subscriber number" or "national number" or "international number"	Complete calling party number	User-provided verified and passed	"International number" or "national number" (Notes 1, 7)
Incorrect number (Note 6)	Any type of number	Default number stored at the network side sufficient for returning the call	Network-provided	"International number" or "national number" (Notes 1, 7)

NOTES

1 A national number shall be converted to an international number at some point in the public network path where the destination is in a different country.

2 This assumes that the user's equipment provides that part of the number pertaining to its own (private) domain. This may be multiple subscriber number digits provided by a terminal equipment or an extension line number provided by a private ISDN. The network shall interpret the number digits and check if it is a valid digit sequence according to the agreements existing between the calling user and the network provider.

3 Completion means that the remaining part of the ISDN number associated with the appropriate access is added to the user provided part of the number.

4 The term "verified" implies matching the user provided number or part of this number with the range(s) of numbers stored at the network side and it implies at least a valid format of user provided number information.

5 The term "correct" implies, from the network point of view, matching the subscriber number provided by the user with one of the numbers in the set of numbers stored at the network side.

6 The number provided by the user is discarded.

7 As a network option the type of number forwarded to the called user may be coded "unknown" when a prefix is added to the number, in which case the number is organized according to the network dialling plan, i.e. prefixes or the absence of a prefix, shall be used to distinguish international numbers and national numbers from each other.

3.5.2.1.1.3 Actions at the originating local exchange if a special arrangement applies

These procedures shall be provided as part of the basic service and the calling user need not have subscribed to the CLIP supplementary service.

When a SETUP message is received from the calling user, the network shall check to see if the Calling party number and Calling party sub-address information elements are included.

If the Calling party number information element is received with a coding of the numbering plan identification field other than "ISDN/telephony numbering plan" (see Recommendation E.164) or "unknown", then the network shall discard the Calling party number information element and process the call as if that information element was not received.

If the Calling party number information element is received with the coding of the type of number field other than "national number" or "international number", then the network shall discard the Calling party number information element and process the call as if that information element was not received.

The network shall disregard any value of the screening indicator, if received from the calling user.

If the SETUP message does not contain the Calling party number information element the network shall use a default number associated with the calling user. The network shall set the screening indicator to "network provided".

If the Calling party number information element is included the network shall set the screening indicator to "user-provided, not screened".

NOTE – For the above condition, the procedures of basic call will provide for another calling number to be transported through the network. This other calling number will contain the default number, with an associated screening indicator set to "network provided".

The information determined by the procedures above, shall be forwarded to the destination local exchange, in association with the basic call request.

The presentation indicator, as determined by the procedures of the CLIR supplementary service (see clause 4) shall be forwarded to the destination local exchange, in association with the basic call request.

If the Calling party sub-address information element is available, it shall be passed transparently through the network.

The actions at the originating local exchange when special arrangement applies are summarized in Table 3-2.

TABLE 3-2/Q.951

Information provided by the calling user and by the network when special arrangement applies

Information provided by the calling user		Information provided by the network to the called user		
Calling party number received from the calling user (octet 4)	Type of number (octet 3)	Calling party number forwarded (if CLIR is not activated) (octet 4)	Screening indicator forwarded (octet 3a)	Type of number forwarded (octet 3)
No calling party number information element is provided by the calling user		Default number stored at the network side sufficient for returning the call	Network provided	"International number" or "national number" (Notes 1, 2)
Any digit sequence conforming to E.164	"National number" or "international number"	Number provided by the user (Note 1)	User-provided, not screened	"International number" or "national number" (Notes 1, 2)

NOTES

1 A national number shall be converted to an international number at some point in the public network path where the destination is in a different country.

2 As a network option the type of number forwarded to the called user may be coded "unknown" when a prefix is added to the number, in which case the number is organized according to the network dialling plan, i.e. prefixes or the absence of prefixes, shall be used to distinguish international numbers and national numbers from each other.

3.5.2.1.2 Exceptional procedures

Not applicable.

3.5.2.2 Actions at the transit exchange

This subclause is not applicable to DSS 1.

3.5.2.3 Actions at the destination local exchange

3.5.2.3.1 Normal operation

When the network sends a SETUP message to the called user and if the called user is provided with the CLIP supplementary service, the network shall check to see if the calling number is available.

If the calling number is available and presentation is allowed according to the presentation indicator supplied together with the calling number, the network shall include the Calling party number information element in the SETUP message sent to the called user. If provided, the network shall also include the Calling party sub-address information element in the SETUP message. The presentation and screening indicators associated with the calling number, and the calling sub-address, received at the destination exchange, shall be passed transparently to the called user.

The numbering plan identification field shall be coded either "ISDN/telephony numbering plan" (see Recommendation E.164)" or "unknown".

If presentation is not allowed according to the presentation indicator supplied together with the calling number, the network shall include the Calling party number information element in the SETUP message sent to the called user. The presentation indicator in the Calling party number information element shall indicate "presentation restricted". The network shall encode the screening indicator, numbering plan identification and the type of number according to one of the following options:

i) The screening indicator shall indicate "network provided". The type of number and numbering plan identification shall be set to "unknown".

ii) The screening indicator, numbering plan identification and the type of number shall be as received at the destination network.

The network shall not include digits field. The network shall not include the Calling party sub-address information element in the SETUP message.

If neither the calling number nor an indication that presentation is restricted is available at the destination local exchange the network shall include the Calling party number information element in the SETUP message sent to the called user. The presentation indicator shall be set to "number not available due to interworking", and the screening indicator shall be set to "network provided", the type of number and the numbering plan identification shall be set to "unknown" and the number digits field shall not be included. The network shall not include the Calling party sub-address information element, if provided, in the SETUP message.

If the called user is not provided with the CLIP supplementary service, then neither the Calling party number nor the Calling party sub-address information elements shall be included in the SETUP message sent to the called user.

If presentation is restricted but as a national network option the called user has the "override" category (e.g., police or emergency service) marked in the destination local exchange, the network shall include the Calling party number information element, and Calling party sub-address information element if the sub-address was supplied by the calling party in the SETUP message. In this case, the presentation and screening indicators shall be passed transparently to the called user.

NOTE – If the presentation indicator in the Calling party number information element received by the user is set to "number not available due to interworking" or "presentation restricted", the remaining information in the Calling party number information element should be ignored by the user.

3.5.2.3.2 Exceptional procedures

Not applicable.

3.6 Interaction with other supplementary services

3.6.1 Call Waiting

No interaction.

3.6.2 Call Transfer

No interaction.

3.6.3 Connected Line Identification Presentation

No interaction.

3.6.4 Connected Line Identification Restriction

No interaction.

3.6.5 Calling Line Identification Presentation

No interaction.

3.6.6 Calling Line Identification Restriction

The calling line identification will not be presented if the calling user has an arrangement to inhibit the presentation of his number(s) to the called party (calling user subscribes to the supplementary service "Calling Line Identification Restriction"). The only occasion when a user subscribing to CLIP can take precedence over CLIR is when the CLIP served user has an override category. This is a national option.

3.6.7 Closed User Group

No interaction.

3.6.8 Conference Calling

As specified in 1/Q.954.

3.6.9 Direct-Dialling-In

No interaction.

3.6.10 Call diversion (call forwarding) services

3.6.10.1 Call Forwarding Busy

As specified in 2/Q.952.

3.6.10.2 Call Forwarding No Reply

As specified in 3/Q.952.

3.6.10.3 Call Forwarding Unconditional

As specified in 4/Q.952.

3.6.10.4 Call Deflection

As specified in 5/952.

3.6.11 Line Hunting

No interaction.

3.6.12 Three-Party Service

No interaction.

3.6.13 User-to-User Signalling

3.6.13.1 Service 1

No interaction.

3.6.13.2 Service 2

No interaction.

3.6.13.3 Service 3

No interaction.

3.6.14 Multiple Subscriber Number

Upon call initiation, if the ISDN number indicated by the MSN user terminal is not subscribed to for the interface, or if no numbering information is indicated, a default number or a number unavailable indication is provided to the CLIP user.

3.6.15 Call Hold

No interaction.

3.6.16 Advice of charge

No interaction.

3.6.17 Sub-addressing

No interaction.

3.6.18 Terminal Portability

No interaction.

3.6.19 Completion of Calls to Busy Subscriber

As specified in 3/Q.953.

3.6.20 Malicious Call Identification

As specified in clause 7.

3.6.21 Reverse Charging

No interaction.

3.6.22 Multilevel Precedence and Preemption

No interaction.

3.7 Interaction with other networks

3.7.1 Interaction with non-ISDNs

On calls incoming from some non-ISDNs, the calling number may be delivered to the destination ISDN without an indication of calling line identity restriction. In this case a number of options exist and the selection of the following is according to the network rules and regulations:

- The network shall send the Calling party number information element according to 3.5.2.3.1, sixth paragraph, and shall include no Calling party sub-address information element.
- The network shall send the Calling party number information element according to 3.5.2.3.1, fourth paragraph, and shall include no Calling party sub-address information element.
- The network shall send the Calling party number information element according to 3.5.2.3.1, second paragraph, and shall include the Calling party sub-address information element if the calling sub-address is available.

For some other non-ISDNs, no complete calling number may be available to the ISDN and therefore the full number of the calling user cannot be given to the called user who has been provided with the CLIP supplementary service. In this case the network shall send the Calling party number information element according to 3.5.2.3.1, sixth paragraph, and shall include no Calling party sub-address information element.

On calls incoming from some non-ISDNs, the calling number may be delivered to the destination ISDN with an indication of Calling Line Identity Restriction. In this case the network shall send the Calling party number information element according to 3.5.2.3.1, second paragraph, and shall include the Calling party sub-address information element if the calling sub-address is available.

As a network option the originating network may restrict any address information identifying the calling user from being forwarded to another network.

3.7.2 Procedures for interworking with private ISDNs

The procedures specified in 3.5.2 shall be used.

NOTE – The provision of the special arrangement where an access is used by a private network is especially appropriate.

3.8 Signalling flows

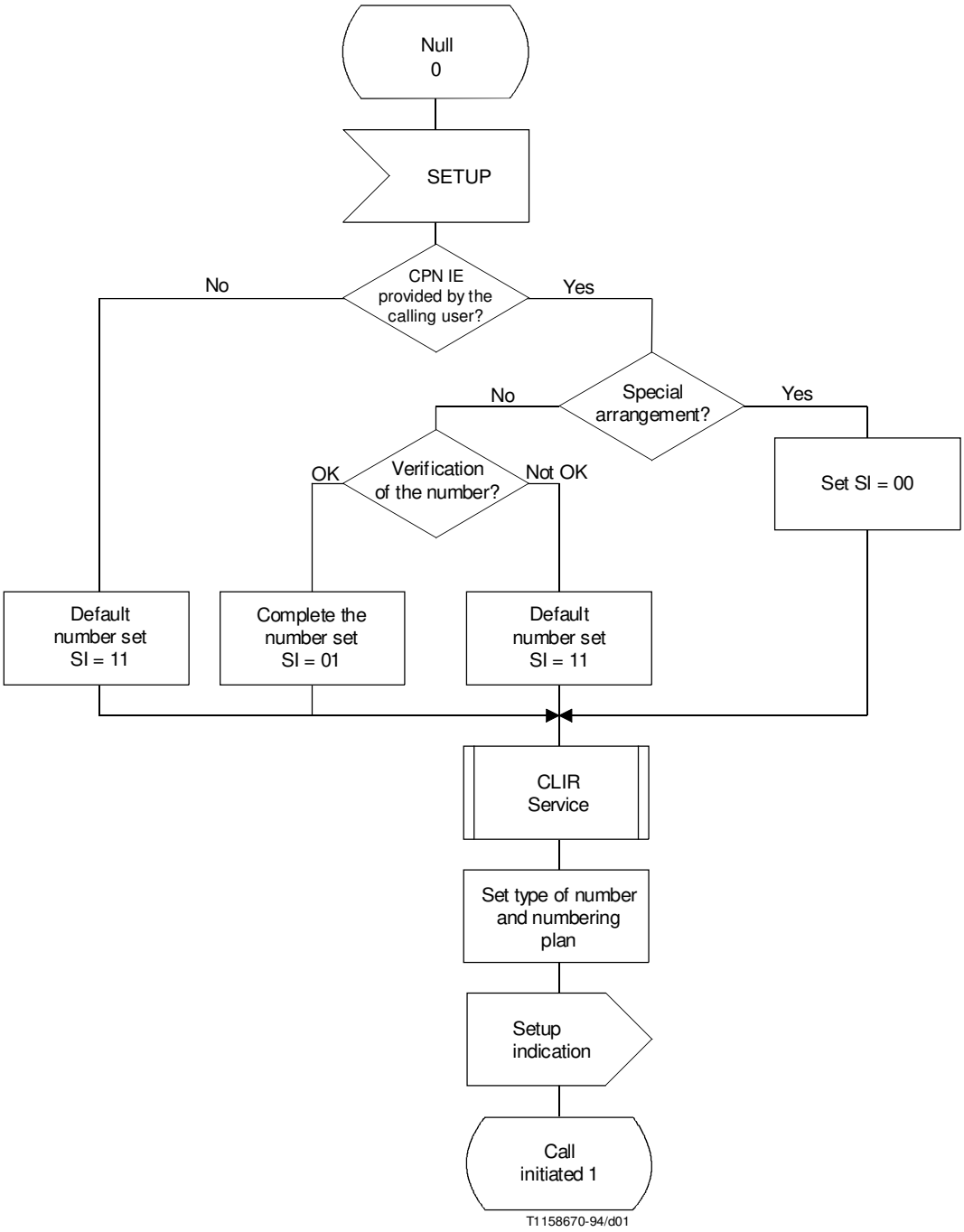
The signalling flows are not included as they are an integral part of the basic call control procedures.

3.9 Parameter values (timers)

No specific timers are required.

3.10 Dynamic description

See Figures 3-1 and 3-2.



NOTES

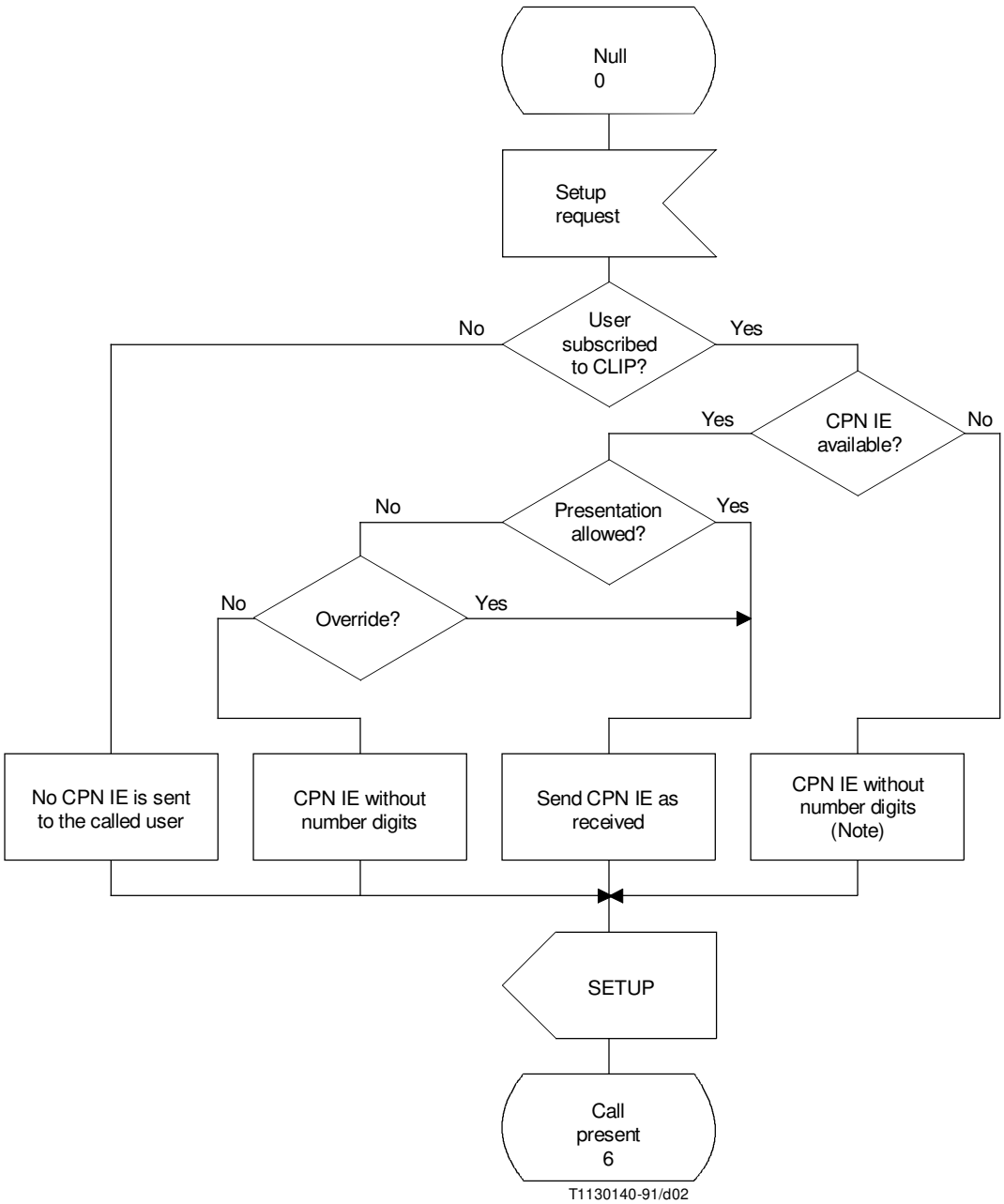
1 This procedure operates independently from any CLIP subscription by the calling user and is provided as part of the basic service.

2 The screening indicator encodings are:

SI = 11 Network provided
SI = 01 User provided verified and passed
SI = 00 User provided not screened.

FIGURE 3-1/Q.951

Originating network side dynamic description



NOTE – In this case SI = 11 and PI = 10.

FIGURE 3-2/Q.951

Destination network side dynamic description

Annex A

(referred to in clause 3)

Two Calling party number information elements delivery option

A.1 Scope

This annex specifies additional procedures to be supported for the delivery of two Calling party number information elements to the served user. The support of these procedures (or of a part of these) is a network option.

These additional features shall have no impact and shall place no requirement whatsoever on the provision and operation of the CLIP supplementary service defined in this Recommendation by public ISDNs that do not support these additional features, nor on the interchangeability of terminals.

A.2 Additional procedures at the destination network side

The procedures described in this annex pertain to networks capable of delivering two numbers to the called user.

A.2.1 Normal operation

The procedures described in 3.5.2.3.1 apply in the following situations:

a) only a single number is available for delivery at the terminating exchange;

b) presentation is restricted;

c) the called user is not provided with the CLIP supplementary service;

d) if the subscription option to two number delivery exists and the called user has not subscribed to two number delivery.

When two numbers are available at the terminating exchange with screening indicators of one set to "network provided" and the other set to "user provided not screened", the network shall deliver the information in two Calling party number information elements sent in a SETUP message to the called user.

In addition, for some networks, when two numbers are available at the terminating exchange with screening indicators of one set to "network provided" and the other set to "user-provided, verified and failed", the network shall deliver the information in two Calling party number information elements sent in a SETUP message to the called user.

The order in which the Calling party number information elements appear in the SETUP message is a network option.

If provided, the network shall also include the Calling party sub-address information element in the SETUP message. The presentation and screening indicators associated with the calling number, and the calling sub-address, received at the destination exchange, shall be passed transparently to the called user.

A.2.2 Exceptional procedures

Not applicable.

A.3 Actions at the originating user

Actions at the originating user are as described in 3.5.2.1.1.1.

A.4 Additional actions at the originating local exchange

The procedures of 3.5.2.1.1.2 shall apply except in the case where the screening function fails.

When the screening function fails, the network shall set the screening indicator to "user-provided, verified and failed".

NOTE – For the above condition, the procedures of basic call will provide for another calling number to be transported through the network. This other calling number will contain the default number with an associated screening indicator set to "network provided".

The information determined by the procedures above shall be forwarded to the destination local exchange in association with the basic call request.

The presentation indicator, as determined by the procedures of the CLIR supplementary service (see clause 4) shall be forwarded to the destination local exchange in association with the basic call request.

If the Calling party sub-address information element is available, it shall be passed transparently through the network.

The actions at the originating local exchange when screening fails are summarized in Table A.1.

TABLE A-1/Q.951

Information provided by the calling user and by the network when screening fails

Information provided by the calling user		Information provided by the network to the called user		
Any digit sequence conforming to E.164	"Unknown number", "national number" or "international number"	Number provided by the user (Note 1)	User-provided, verified and failed	"Unknown number", "international number" or "national number" (Notes 1, 2)

NOTES

1 A national number shall be converted to an international number at some point in the public network path where the destination is in a different country.

2 As a network option the type of number forwarded to the called user may be coded "unknown" when a prefix is added to the number, in which case the number is organized according to the network dialling plan, i.e. prefixes or the absence of a prefix, shall be used to distinguish international numbers and national numbers from each other.

4 Calling Line Identification Restriction (CLIR)

4.1 Definition

calling line identification restriction (CLIR) is a supplementary service offered to the calling party to restrict presentation of the calling party's ISDN number and sub-address to the called party.

4.2 Description

4.2.1 General description

When CLIR is applicable and activated the originating network shall provide the destination network with an indication that the calling user's ISDN number and sub-address (if provided by the calling user) are not allowed to be presented to the called user. In this case no calling user number and sub-address shall be included in the call offered to the called user.

The presentation restriction function shall not influence the forwarding of the calling party number within the network as part of the basic service procedures.

4.2.2 Specific terminology

For the purposes of this Recommendation, the following terms apply:

A **served user** is the user of a particular ISDN number who has subscribed to the restriction of the calling line identification information (on a permanent or on a per-call basis) in association with outgoing calls. The served user is also known as the calling user.

A **called user** is the receiver of a call, initiated by the served user, on which CLIR has been activated.

An ISDN number is a number conforming to the numbering plan and structure specified in Recommendation E.164.

CLIP Calling Line Identification Presentation

CLIR Calling Line Identification Restriction

4.2.3 Qualification on the applicability to telecommunication services

See Recommendation I.251.4.

4.2.4 State definition

No specific states are required.

4.3 Operational requirements

4.3.1 Provision/withdrawal

See Recommendation I.251.4

4.3.2 Requirements on the originating network side

All information pertaining to CLIR is inserted in the SETUP message sent as part of the basic call procedures according to Recommendation Q.931.

4.3.3 Requirements in the network

This subclause is not applicable to DSS 1.

4.3.4 Requirements on the destination network side

See 4.5.2.3.

4.4 Coding requirements

The same as for 3.4.

4.5 Signalling requirements

4.5.1 Activation/deactivation/registration

Not applicable.

4.5.2 Invocation and operation

4.5.2.1 Actions at the originating user

If the calling user wishes to override the default setting in the network, the SETUP message sent by the user shall contain the Calling party number information element with the presentation indicator set appropriately.

4.5.2.2 Actions at the originating local exchange

4.5.2.2.1 Normal operation

If the calling user has subscribed to the Calling Line Identification Restriction supplementary service permanent mode, the presentation indicator received in the SETUP message will be ignored. The network shall set the presentation indicator to “presentation restricted”.

If the calling user has subscribed to the CLIR supplementary service on a per-call basis and requests to override the default setting, the originating network shall set the presentation indicator according to that in the received Calling party number information element.

The number digits, if included, shall be treated according to Table 3-1 or Table 3-2, and 3.5.2.1.1.

If the CLIR is requested by the user on a per-call basis, and no Calling party number information element is included in the SETUP message, the originating network shall set the presentation indicator according to the subscribed default value.

The presentation indicator shall be forwarded to the destination in association with the basic call request.

4.5.2.2.2 Exceptional procedures

Not applicable.

4.5.2.3 Actions at the transit exchange

This subclause is not applicable to DSS 1.

4.5.2.4 Actions at the destination local exchange

4.5.2.4.1 Normal operation

The actions to be performed at the destination local exchange are provided as part of the CLIP service, described in 3.5.2.3.1.

4.5.2.4.2 Exceptional procedures

Not applicable.

4.6 Interaction with other supplementary services

4.6.1 Call Waiting

No interaction.

4.6.2 Call Transfer

No interaction.

4.6.3 Connected Line Identification Presentation

No interaction.

4.6.4 Connected Line Identification Restriction

No interaction.

4.6.5 Calling Line Identification Presentation

CLIR takes precedence over CLIP. The only occasion when a user subscribing to CLIP can take precedence over CLIR is when the CLIP served user has an override category. This is a national option.

4.6.6 Calling Line Identification Restriction

No interaction.

4.6.7 Closed User Group

No interaction.

4.6.8 Conference Calling

As specified in 1/Q.954.

4.6.9 Direct-Dialling-In

No interaction.

4.6.10 Call diversion (call forwarding) services

4.6.10.1 Call Forwarding Busy

As specified in 2/Q.952.

4.6.10.2 Call Forwarding No Reply

As specified in 3/Q.952.

4.6.10.3 Call Forwarding Unconditional

As specified in 4/Q.952.

4.6.10.4 Call Deflection

As specified in 5/Q.952.

4.6.11 Line Hunting

No interaction.

4.6.12 Three-Party Service

No interaction.

4.6.13 User-to-User Signalling

4.6.13.1 Service 1

No interaction.

4.6.13.2 Service 2

No interaction.

4.6.13.3 Service 3

No interaction.

4.6.14 Multiple Subscriber Number

No interaction.

4.6.15 Call Hold

No interaction.

4.6.16 Advice of Charge

No interaction.

4.6.17 Sub-addressing

No interaction.

4.6.18 Terminal Portability

No interaction.

4.6.19 Completion of Calls to Busy Subscriber

As specified in 3/Q.953.

4.6.20 Malicious Call Identification

As specified in clause 7.

4.6.21 Reverse Charging

No interaction.

4.6.22 Multi-level Precedence and Preemption

No interaction.

4.7 Interaction with other networks

4.7.1 Interaction with other networks

On calls to or via non-ISDNs, it cannot be assured that a restriction indication can be carried to the destination network. As a national network option the originating network shall have the possibility to restrict any information identifying the calling party being forwarded to the destination network when CLIR is applicable. If a destination network receives a calling party number without any indication of presentation allowed or restricted, the destination network (the host network) will act according to its rules and regulations. For further information see 3.7.

4.7.2 Procedures for interworking with private ISDNs

The procedures specified in 4.5 shall be used.

4.8 Signalling flows

The signalling flows are not included as they form an integral part of the basic call control procedures.

4.9 Parameter values (timers)

No specific timers are required.

4.10 Dynamic description

See Figure 4-1.

5 Connected Line Identification Presentation (COLP)

5.1 Definition

connected line identification presentation (COLP) is a supplementary service offered to the calling party which provides the connected party's ISDN number, with possible additional sub-address information, to the calling party.

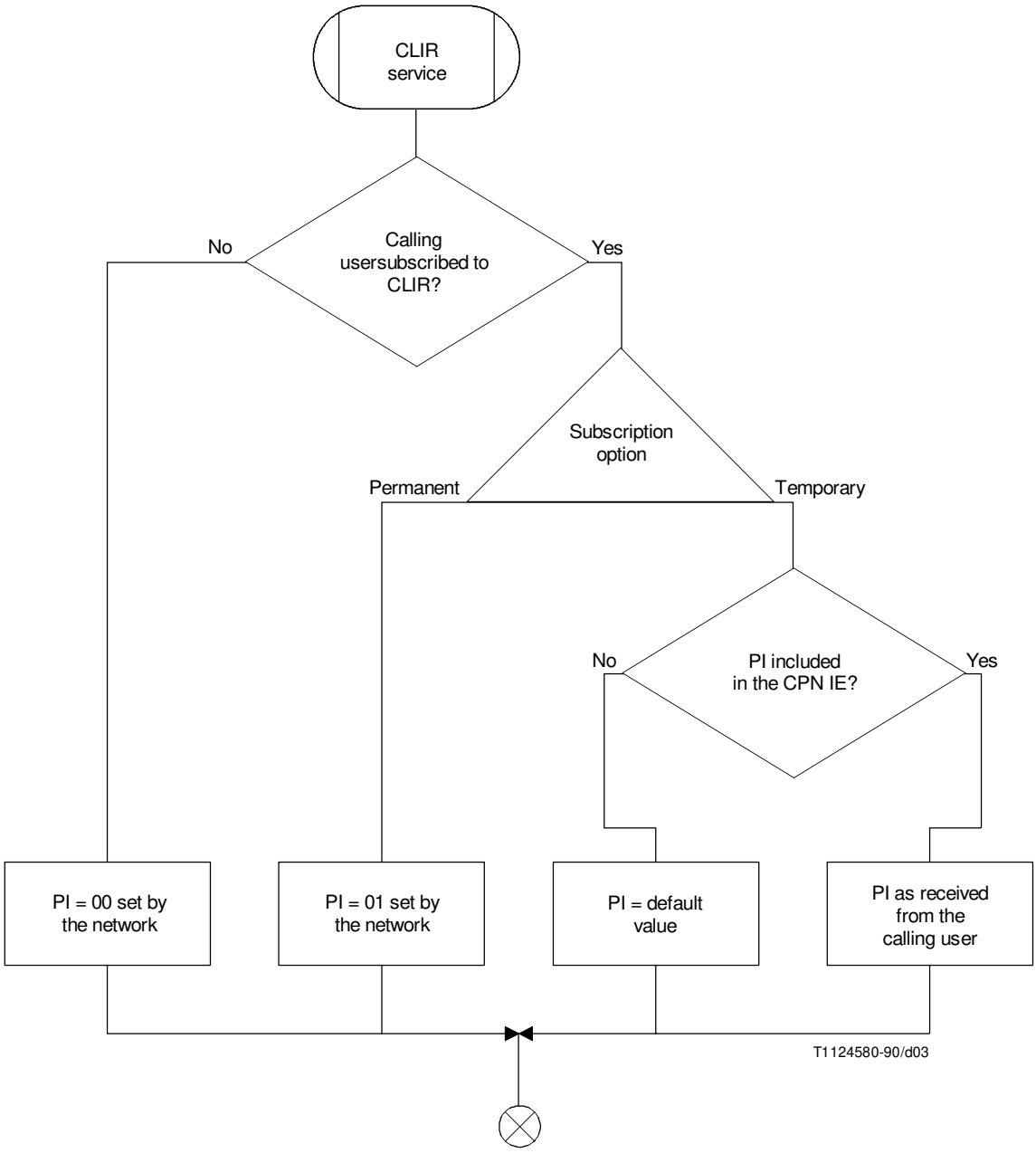
5.2 Description

5.2.1 General description

This supplementary service is not a dialling check but an indication to the calling subscriber of the connected ISDN number. In a full ISDN environment, the connected line identity must include all the information necessary to unambiguously identify the connected line.

Moreover, the information on the connected line identity may include additional sub-address information (i.e. the Connected sub-address information element) generated by the connected user and transparently transported by the network. The network is not responsible for the content of this additional sub-address information.

Unless COLR has been subscribed by the connected user, the network delivers the connected line identity to the calling user regardless of the terminal capability to handle the information.



PI = 00 “presentation allowed”
PI = 01 “presentation restricted”

FIGURE 4-1/Q.951

Originating network side dynamic description

5.2.2 Specific terminology

For the purposes of this Recommendation, the following terms apply:

A **served user** is the user of a particular ISDN number who has subscribed to the presentation of the connected line identification information in association with outgoing calls. The served user is also known as the calling user.

A **connected user** is the user that responded to the served user call request at the destination network and has been awarded the call by the network. The connected user need not have subscribed to the Connected Line Identification Presentation supplementary service.

An ISDN number is a number conforming to the numbering plan structure specified in Recommendation E.164.

An international number is an ISDN number structured as specified in Recommendation E.164.

A national number or a national significant number is an ISDN number structured as specified in Recommendation E.164.

A subscriber number is an ISDN number structured as specified in Recommendation E.164.

An address is the number of the connected user (normally ISDN number), and a sub-address if provided by that user.

A default number is an agreed number between the user at the connected side and the network provider.

A special arrangement is an arrangement between a customer and a public network operator whereby customer supplied connected numbers are not screened by the public ISDN.

COLP Connected Line Identification Presentation

COLR Connected Line Identification Restriction

5.2.3 Qualification on the applicability to telecommunication services

See Recommendation I.251.5.

5.2.4 State definition

No specific states are required.

5.3 Operational requirements

5.3.1 Provision/withdrawal

See Recommendation I.251.5.

5.3.2 Requirements on the originating network side

See 5.5.2.1.

5.3.3 Requirements in the network

This subclause is not applicable to DSS 1.

5.3.4 Requirements on the destination network side

All information pertaining to COLP shall be inserted in the CONNECT message sent as part of the basic call procedures according to 5/Q.931.

In the case where no information is provided by the connected user (as part of the basic call procedures), the network shall provide the default number associated with this user's access in the destination local exchange. When the connected number is provided by the connected user, the network can only verify that the number is within the set of numbers allocated to that user. Where a special arrangement exists with the connected user, no verification shall be performed.

5.4 Coding requirements

The COLP supplementary service shall make use of the Connected number and Connected sub-address information elements inserted in the CONNECT message.

All codesets used in this Recommendation are defined in codeset 0.

TABLE 5-1/Q.951

CONNECT message content

Message type: CONNECT
Significance: local
Direction: both

Information element	Reference	Direction	Type	Length
Protocol discriminator	4.2/Q.931	Both	M	1
Call reference	4.3/Q.931	Both	M	2-*
Message type	4.4/Q.931	Both	M	1
Connected number	5.4.1	Both	O	2-*
Connected sub-address	5.4.1	Both	O	2-23
NOTE – Other information elements as described in 3.1/Q.931.				

5.4.1 Connected number information element

The purpose of the Connected number information element is to indicate which number is connected to a call. The connected number may be different from the called party number because of changes (e.g. call redirection, transfer) during the lifetime of a call.

The Connected number information element is coded as shown in Figure 5-1. The maximum length of this information element is network dependent.

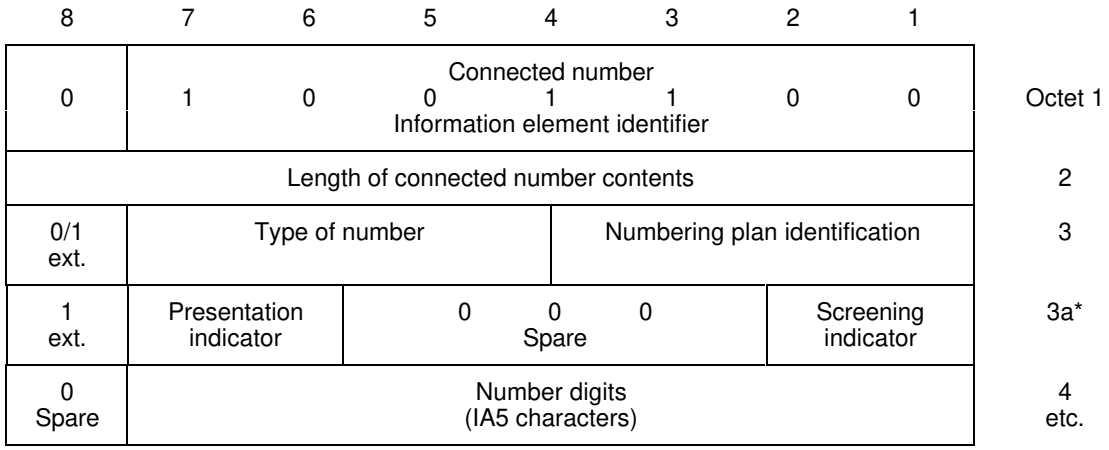


FIGURE 5-1/Q.951

Connected number information element

5.4.2 Connected sub-address information element

The purpose of the Connected sub-address information element is to identify a sub-address associated with the connected number of a call. For the definition of sub-address, see Recommendation I.330.

The Connected sub-address information element is coded as shown in Figure 5-2. Octets 3 and 4 are coded as in calling and Called party sub-address information elements in Recommendation Q.931. The maximum length of this information element is 23.

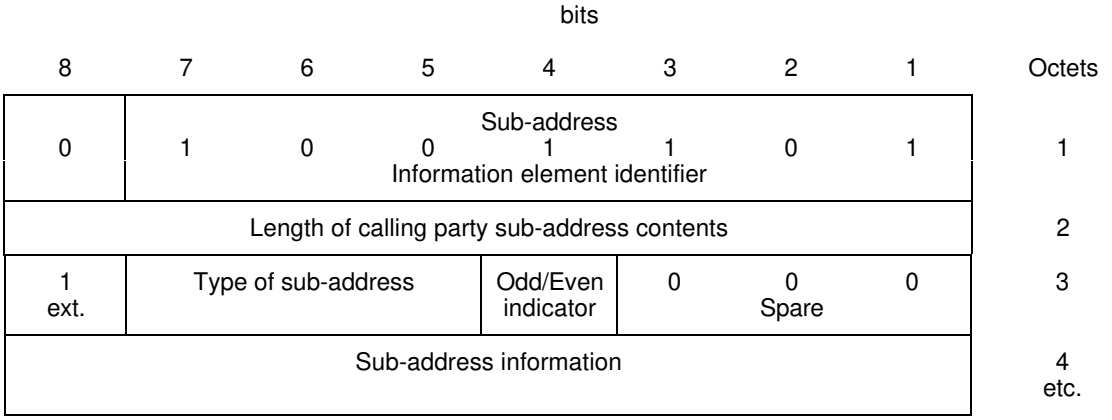


FIGURE 5-2/Q.951

Connected sub-address information element

5.5 Signalling requirements

5.5.1 Activation/deactivation/registration

Not applicable.

5.5.2 Invocation and operation

5.5.2.1 Actions at the originating local exchange

5.5.2.1.1 Normal operation

When the network sends a CONNECT message to the calling user and the calling user is provided with the COLP supplementary service, the network shall check to see if the connected number is available.

If the connected number is available and presentation is allowed according to the presentation indicator supplied together with the connected number, the network shall include the Connected number information element in the CONNECT message sent to the calling user. If provided, the network shall also include the Connected sub-address information element in the CONNECT message. The presentation and screening indicators associated with the connected number and the connected sub-address received at the originating exchange shall be passed transparently to the calling user.

The numbering plan identification field shall be coded either as "ISDN/telephony numbering plan" (see Recommendation E.164) or "unknown".

If presentation is not allowed according to the presentation indicator supplied together with the connected number, the network shall include the Connected number information element in the CONNECT message sent to the calling user. The presentation indicator in the Connected number information element shall indicate "presentation restricted". The network shall encode the screening indicator, numbering plan identification and the type of number according to one of the following options:

i) The screening indicator shall indicate "network provided". The type of number and numbering plan identification shall be set to "unknown".

ii) The screening indicator, numbering plan identification and the type of number shall be passed as received at the destination network.

The network shall not include number digits field. The network shall not include the Connected sub-address information element, in the CONNECT message.

If neither the connected number nor an indication that presentation is restricted is available at the originating local exchange, the network shall include the Connected number information element in the CONNECT message sent to the calling user. The presentation indicator shall be set to "number not available due to interworking" and the screening indicator shall be set to "network provided", the type of number and numbering plan identification shall be set to "unknown" and the number digits field shall not be included. The network shall not include the Connected sub-address information element, if provided, in the CONNECT message.

If the calling user is not provided with the COLP supplementary service, then neither the Connected number nor the Connected sub-address information elements shall be included in the CONNECT message sent to the calling user.

If presentation is restricted but as a national network option the calling user has the "override" category (e.g police or emergency service) marked in the originating local exchange, the network shall include the Connected number information element and Connected sub-address information element if the sub-address was supplied by the connected user, in the CONNECT message. In this case, the presentation and screening indicators shall be passed transparently to the calling user.

NOTE – If the presentation indicator in the Connected number information element received by the user is set to "number not available due to interworking" or "presentation restricted", the remaining information in the Connected number information element should be ignored by the user.

5.5.2.1.2 Exceptional procedures

Not applicable.

5.5.2.2 Actions at the transit exchange

This subclause is not applicable to DSS 1.

5.5.2.3 Actions at the destination local exchange

5.5.2.3.1 Normal operation

5.5.2.3.1.1 Action at the destination user

These procedures shall be provided as part of the basic service and the connected user need not have subscribed to the COLP supplementary service.

The numbering plan identification to be indicated within the Connected number information element, sent by the connected user shall be either "ISDN/telephony numbering plan" (see Recommendation E.164) or "unknown".

NOTE – Either coding may be used and the treatment of both by the network is identical.

Where the connected number included by the connected user is complete, the type of number to be indicated within the Connected number information element, sent by the connected user, shall be one of the following:

- "*Subscriber number*" – In the case where the complete subscriber number is sent.
- "*National number*" – In the case where the complete national number is sent.
- "*International number*" – In the case where the complete international number is sent.

Where a partial connected number is included by the connected user (e.g. to indicate digits specific to the Multiple Subscriber Number supplementary service) the user shall set the type of number to be indicated within the Connected number information element to "unknown".

5.5.2.3.1.2 Actions at the destination local exchange if a special arrangement does not apply

These procedures shall be provided as part of the basic service and the connected user need not have subscribed to the COLP supplementary service.

If multiple CONNECT messages are received from the called user, the network shall only perform the following procedures when it has decided which CONNECT message to acknowledge.

Where a CONNECT message is received from the connected user, the network shall check to see if the Connected number and Connected sub-address information elements are included.

If the Connected number information element is received with a coding of the numbering plan identification field other than "ISDN/telephony numbering plan" (see Recommendation E.164) or "unknown", then the network shall discard the Connected number information element and process the call as if that information was not received.

The network shall set the value of the screening indicator based on the outcome of the screening of the connected number. The network shall disregard any value of the screening indicator, if received from the connected user.

If the Connected number information element is included, the network shall perform the screening function.

NOTE 1 – Some networks may accept a full ISDN number with the addition of a prefix or escape digits to the number digits field and the type of number field set to "unknown".

If the connected number received from the connected user is determined to be correct, the network shall set the screening indicator to "user-provided, verified and passed".

If the screening function fails, the network shall note that the screening is failed and shall use a default number associated with the connected user. The network shall set the screening indicator to "network provided".

If the CONNECT message does not contain the Connected number information element, the network shall use a default number associated with the connected user. The network shall set the screening indicator to "network provided".

In the case where the connected user provides partial connected number information, and the number is a valid digit sequence for the user access arrangement, the network shall complete the number as appropriate. The network shall set the screening indicator to "user-provided, verified and passed".

NOTE 2 – In some cases the network cannot guarantee that the completed number identifies an end user.

The information, as determined by the procedures above, shall be forwarded to the originating local exchange, in association with the basic call response.

The presentation indicator, as determined by the procedures of the COLR supplementary service (see clause 6), shall be forwarded to the originating local exchange, in association with the basic call response.

If the Connected sub-address information element is available, it shall be passed transparently through the network.

The actions at the destination local exchange if a special arrangement does not apply are shown in Table 5-2.

5.5.2.3.1.3 Actions at the destination local exchange if a special arrangement applies

These procedures shall be provided as part of the basic service and the connected user need not have subscribed to the COLP supplementary service.

If multiple CONNECT messages are received from the called user, the network shall only perform the following procedures when it has decided which CONNECT message to acknowledge.

When a CONNECT message is received from the connected user, the network shall check to see if the Connected number and Connected sub-address information elements are included.

If the Connected number information element is received with a coding of the numbering plan identification field other than "ISDN/telephony numbering plan" (see Recommendation E.164) or "unknown", then the network shall discard the Connect number information element and process the call as if that information element was not received.

If the Connected number information element is received with a coding of the type of number field other than "national number" or "international number", then the network shall discard the Connected number information element and process the call as if that information element was not received.

If the Connected number information element is received with a coding of the numbering plan identification field other than "ISDN/telephony number plan" (see Recommendation E.164) or "unknown", then the network shall discard the Connected number information element and process the call as if that information element was not received.

The network shall disregard any value of the screening indicator, if received from the connected user.

TABLE 5-2/Q.951

Information provided by the connected user and by the network when special arrangement does not apply

Information provided by the connected user		Information provided by the network to the calling user		
Connected number received from the connected user (octet 4)	Type of number (octet 3)	Connected number forwarded (if COLR is not activated) (octet 4)	Screening indicator forwarded (octet 3a)	Type of number forwarded (octet 3)
No connected number information element is provided by the connected user		Default number stored at the network side sufficient for returning the call	Network provided	"International number" or "national number" (Notes 1, 7)
Valid part of the number not sufficient for returning the call (Note 2)	"Unknown"	Completion of the number (Note 3)	User-provided verified and passed (Note 4)	"International number" or "national number" (Notes 1, 7)
Correct complete connected number (Note 5)	"Subscriber number" or "national number" or "international number"	Complete connected number	User-provided verified and passed	"International number" or "national number" (Notes 1, 7)
Incorrect number (Note 6)	Any type of number	Default number stored at the network side sufficient for returning the call	Network-provided	"International number" or "national number" (Notes 1, 7)

NOTES

1 A national number shall be converted to an international number at some point in the public network where the origination is in a different country.

2 This assumes that the user's equipment provides that part of the number pertaining to its own (private) domain. This may be multiple subscriber number digits provided by a terminal equipment or an extension line number provided by a private ISDN. The network shall interpret the number digits and check if it is a valid digit sequence according to the agreements existing between the connected user and the network provider.

3 Completion means that the remaining part of the ISDN number associated with the appropriate access is added to the user provided part of the number.

4 The term "verified" implies matching the user provided number or part of this number(s) with the range(s) of numbers stored at the network side and it implies at least a valid format of user provided number information.

5 The term "correct" implies, from the network point of view, matching the subscriber number provided by the user with one of the range(s) of subscriber numbers stored at the network side.

6 The number provided by the user is discarded.

7 As a network option the type of number may be coded "unknown", in which case, the number is organized according to the network dialling plan, i.e. prefixes, or the absence of a prefix, shall be used to distinguish international numbers and national numbers from each other.

If the CONNECT message does not contain the Connected number information element, the network shall use a default number associated with the connected user. The network shall set the screening indicator to "network provided".

The actions at the destination local exchange when special arrangement does not apply, are summarized in Table 5-2.

The information, as determined by the procedures above, shall be forwarded to the origination local exchange, in association with the basic call response.

If the Connected sub-address information element is available, it shall be passed transparently through the network.

The presentation indicator, as determined by the procedures of the COLR supplementary service (see clause 6), shall be forwarded to the originating local exchange, in association with the basic call response.

The actions at the destination local exchange when special arrangement applies are summarized in Table 5-3.

If the Connected number information element is included, the network shall set the screening indicator forwarded to the calling user to "user-provided, not screened".

TABLE 5-3/Q.951

Information provided by the connected user and by the network when special arrangement applies

Information provided by the connected user		Information provided by the network to the called user		
Connected number received from the connected user (octet 4)	Type of number (octet 3)	Connected number forwarded if COLR is not activated (octet 4)	Screening indicator forwarded (octet 3a)	Type of number forwarded (octet 3)
No connected number information element is provided by the connected user		Default number stored at the network side sufficient for returning the call	Network provided	"International number" or "national number" (Notes 1, 2)
Any digit sequence conforming to Rec. E.164	"National number" or "international number"	Number provided by the user (Note 1)	User-provided, not screened	"International number" or "national number" (Notes 1, 2)

NOTES

1 A national number shall be converted to an international number at some point in the public network path where the origination is in a different country.

2 As a network option the type of number may be coded "unknown", in which case, the number is organized according to the network dialling plan, i.e. prefixes, or the absence of a prefix, shall be used to distinguish international numbers and national numbers from each other.

5.5.2.3.2 Exceptional procedures

Not applicable.

5.6 Interaction with other supplementary services

5.6.1 Call Waiting

No interaction.

5.6.2 Call Transfer

No interaction.

5.6.3 Connected Line Identification Presentation

No interaction.

5.6.4 Connected Line Identification Restriction

The connected line identification will not be presented to the calling user if the connected user has subscribed to COLR. The only occasion when a user subscribing to COLP can take precedence over COLR is when the COLP user has an override category. This is a national option.

5.6.5 Calling Line Identification Presentation

No interaction.

5.6.6 Calling Line Identification Restriction

No interaction.

5.6.7 Closed User Group

No interaction.

5.6.8 Conference Calling

As specified in 1/Q.954.

5.6.9 Direct-Dialling-in

No interaction.

5.6.10 Call diversion (call forwarding) services

5.6.10.1 Call Forwarding Busy

As specified in 2/Q.952.

5.6.10.2 Call Forwarding no Reply

As specified in 3/Q.952.

5.6.10.3 Call Forwarding Unconditional

As specified in 4/Q.952.

5.6.10.4 Call Deflection

As specified in 5/Q.952.

5.6.11 Line Hunting

No interaction.

5.6.12 Three-Party Service

No interaction.

5.6.13 User-to-User Signalling

5.6.13.1 Service 1

No interaction.

5.6.13.2 Service 2

No interaction.

5.6.13.3 Service 3

No interaction.

5.6.14 Multiple Subscriber Number

No interaction.

5.6.15 Call Hold

No interaction.

5.6.16 Advice of charge

No interaction.

5.6.17 Sub-addressing

No interaction.

5.6.18 Terminal Portability

No interaction.

5.6.19 Completion of Calls to Busy Subscriber

As specified in 3/Q.953.

5.6.20 Malicious Call Identification

As specified in clause 7.

5.6.21 Reverse Charging

No interaction.

5.6.22 Multilevel Precedence and Preemption

No interaction.

5.7 Interaction with other networks

5.7.1 Interaction with non-ISDNs

On calls destined for some non-ISDNs, the connected number may be delivered to the originating ISDN without an indication of connected line identity restriction. In this case a number of options exist and the selection of the following options is according to the network rules and regulations:

- The network shall send the Connected number information element according to 5.5.2.1.1, sixth paragraph, and shall include no Connected sub-address information element.
- The network shall send the Connected number information element according to 5.5.2.1.1, fourth paragraph, and shall include no Connected sub-address information element.
- The network shall send the Connected number information element according to 5.5.2.1.1, second paragraph, and shall include the Connected sub-address information element if the connected sub-address is available.

For some other non-ISDNs, no complete connected number may be available to the ISDN and therefore the full number of the connected user cannot be given to the calling user who has been provided with the COLP supplementary service. In this case the network shall send the Connected number information element according to 5.5.2.1.1, sixth paragraph, and shall include no Connected sub-address information element.

On calls destined for some non-ISDNs, the connected number may be delivered to the originating ISDN with an indication of connected line identity restriction. In this case the network shall send the Connected number information element according to 5.5.2.1.1, second paragraph, and shall include the Connected sub-address information element if the connected sub-address is available.

As a network option, the destination network may restrict any information identifying the connected user from being forwarded to another network.

5.7.2 Procedures for interworking with private ISDNs

These procedures specified in 5.5.2 shall be used.

NOTE – The provision of the special arrangement where an access is used by a private network is especially appropriate.

5.8 Signalling flows

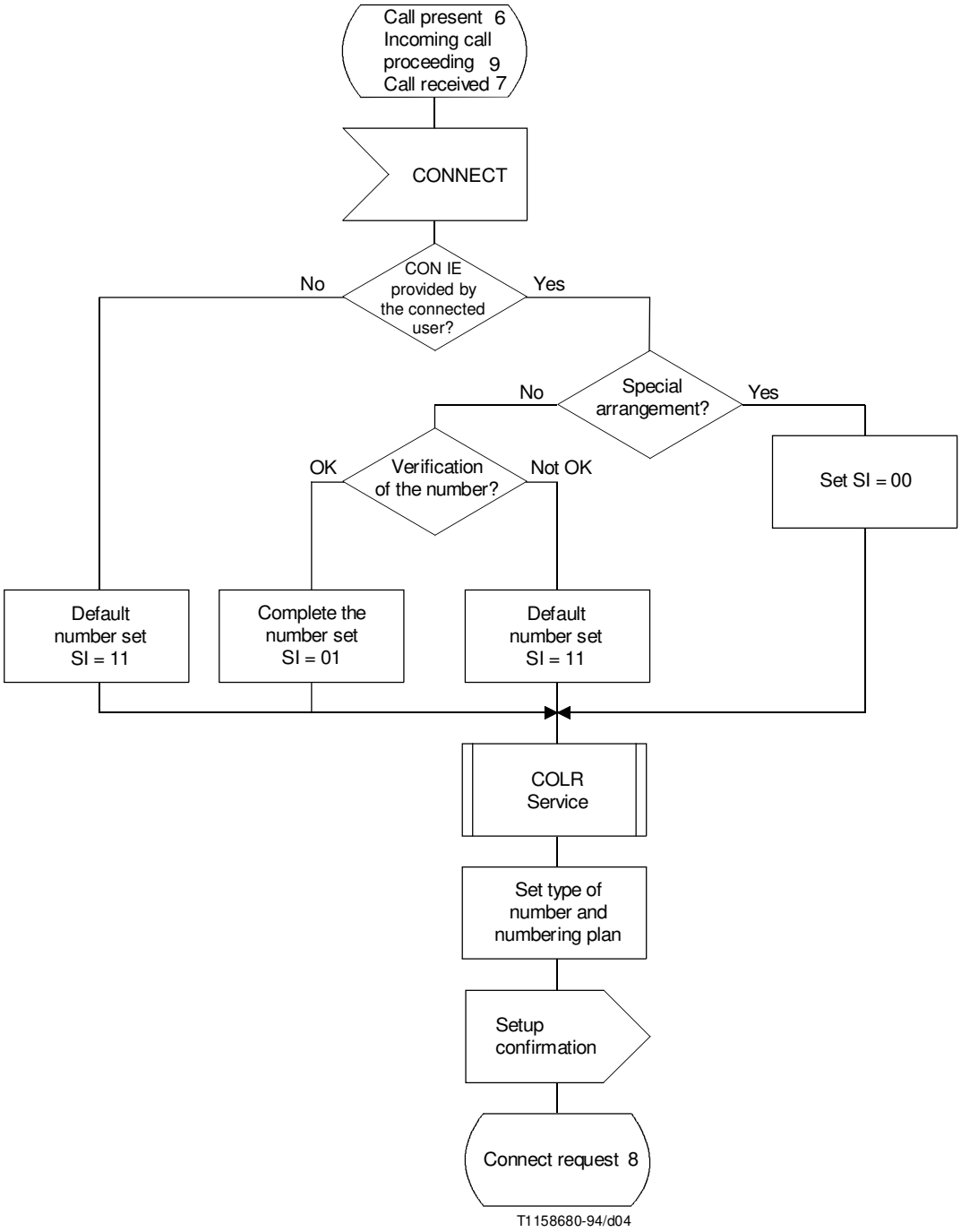
The signalling flows are not included as they are an integral part of the basic call control procedures.

5.9 Parameter values (timers)

No specific timers are required.

5.10 Dynamic description

See Figures 5-3 and 5-4.



NOTES

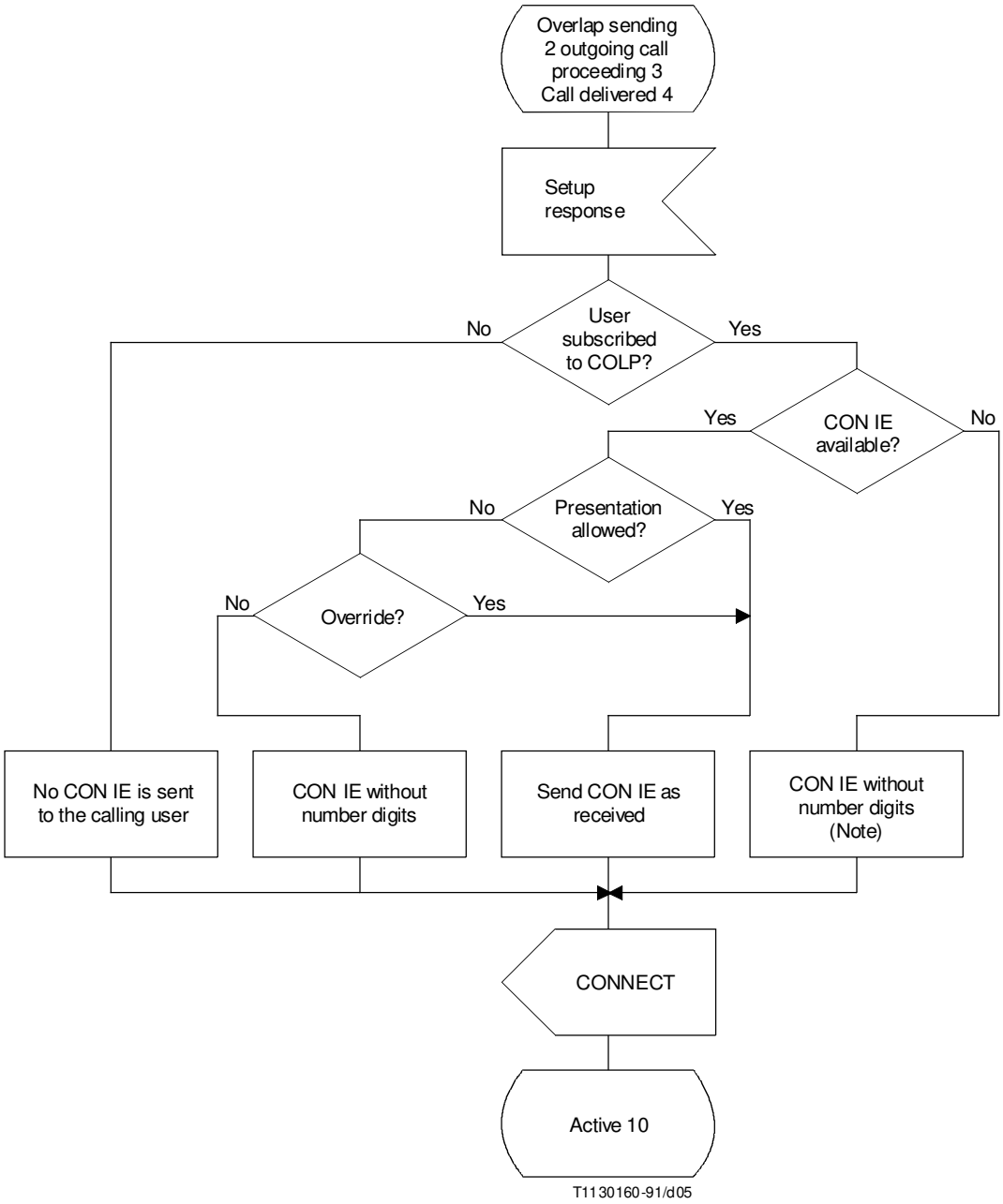
1 This procedure operates independently from any COLP subscription by the connected user and is provided as part of the basic service.

2 The screening indicator encodings are:

SI = 11 Network provided
SI = 01 User provided verified and passed
SI = 00 User provided verified not screened.

FIGURE 5-3/Q.951

Destination network side dynamic description



NOTE – In this case SI=11 and PI=10.

FIGURE 5-4/Q.951

Originating network side dynamic description

6 Connected Line Identification Restriction (COLR)

6.1 Definition

connected line identification restriction (COLR)fs is a supplementary service offered to the connected party to restrict presentation of the connected party's ISDN number and sub-address to the calling party.

6.2 Description

6.2.1 General description

When COLR is applicable and activated, the destination network shall provide the originating network with an indication that the connected user's ISDN number and sub-address information is (if provided by the connected user) are not allowed to be presented to the calling user. In this case no connected number and sub-address shall be included in the call connected information to the calling user.

The presentation restriction function shall not influence the forwarding of the connected number within the network as part of the basic service procedures.

6.2.2 Specific terminology

For the purposes of this Recommendation, the following terms apply:

A **served user** is the user of a particular ISDN number who has subscribed to the restriction of the connected line identification information (on a permanent or on a per-call basis) in association with incoming calls. The served user may also be known as the connected user.

A **calling user** is the initiator of a call, received by the served user, on which COLR has been activated.

An ISDN number is a number conforming to the numbering plan and structure specified in Recommendation E.164.

COLP Connected Line Identification Presentation

COLR Connected Line Identification Restriction

6.2.3 Qualification on the applicability to telecommunication services

See Recommendation I.251.6.

6.2.4 State definition

No specific states are required.

6.3 Operational requirements

6.3.1 Provision/withdrawal

See Recommendation I.251.6.

6.3.2 Requirements on the originating network side

See 6.5.2.1.

6.3.3 Requirements in the network

This subclause is not applicable to DSS 1.

6.3.4 Requirements on the destination network side

All information pertaining to COLR is inserted in the CONNECT message sent as part of the basic call procedures according to 5/Q.931.

6.4 Coding requirements

The same as for 5.4.

6.5 Signalling requirements

6.5.1 Activation/deactivation/registration

Not applicable.

6.5.2 Invocation and operation

6.5.2.1 Actions at the originating local exchange

6.5.2.1.1 Normal operation

The actions to be performed at the originating local exchange are provided as part of the COLP supplementary service, described in 5.5.2.1.1.

6.5.2.1.2 Exceptional procedures

Not applicable.

6.5.2.2 Actions at the transit exchange

This subclause is not applicable to DSS 1.

6.5.2.3 Action at the destination user

If the connected user wishes to override the default setting in the network, the CONNECT message sent by the user shall contain the Connected number information element with the presentation indicator set appropriately.

6.5.2.4 Actions at the destination local exchange

6.5.2.4.1 Normal operation

If the connected user has subscribed to the Connected Line Identification Restriction supplementary service permanent mode, the presentation indicator received in the CONNECT message will be ignored. The network shall set the presentation indicator to “presentation restricted”.

If the connected user has subscribed to the COLR supplementary service on a per-call basis and requests to override the default setting, the destination network shall set the presentation indicator according to that in the received Connected number information element.

The digits, if included, shall be treated according to Table 5-2 or Table 5-3, and 5.5.2.3.1.

If COLR is requested by the user on a per-call basis, and no Connected number information element is included in the CONNECT message, the destination network shall set the presentation indicator according to the subscriber value.

The presentation indicator shall be forwarded to the originating network in association with the basic call response.

6.5.2.4.2 Exceptional procedures

Not applicable.

6.6 Interaction with other supplementary services

6.6.1 Call Waiting

No interaction.

6.6.2 Call Transfer

No interaction.

6.6.3 Connected Line Identification Presentation

COLR will take precedence over COLP. The only occasion when a user subscribing to COLP can take precedence over COLR is when the user has an override category. This is a national option.

6.6.4 Connected Line Identification Restriction

No interaction.

6.6.5 Calling Line Identification Presentation

No interaction.

6.6.6 Calling Line Identification Restriction

No interaction.

6.6.7 Closed User Group

No interaction.

6.6.8 Conference Calling

As specified in 1/Q.954.

6.6.9 Direct-Dialling-In

No interaction.

6.6.10 Call diversion (call forwarding) services

6.6.10.1 Call Forwarding Busy

As specified in 2/Q.952.

6.6.10.2 Call Forwarding no Reply

As specified in 3/Q.952.

6.6.10.3 Call Forwarding Unconditional

As specified in 4/Q.952.

6.6.10.4 Call Deflection

As specified in 5/Q.952.

6.6.11 Line Hunting

No interaction.

6.6.12 Three-Party Service

No interaction.

6.6.13 User-to-User Signalling

6.6.13.1 Service 1

No interaction.

6.6.13.2 Service 2

No interaction.

6.6.13.3 Service 3

No interaction.

6.6.14 Multiple Subscriber Number

No interaction.

6.6.15 Call Hold

No interaction.

6.6.16 Advice of Charge

No interaction.

6.6.17 Sub-addressing

No interaction.

6.6.18 Terminal Portability

No interaction.

6.6.19 Completion of Calls to Busy Subscriber

As specified in 3/Q.953.

6.6.20 Malicious Call Identification

As specified in clause 7.

6.6.21 Reverse Charging

No interaction.

6.6.22 Multilevel Precedence and Preemption

No interaction.

6.7 Interaction with other networks

6.7.1 Interaction with non-ISDNs

On calls to or via non-ISDNs, it cannot be assured that a restriction indication can be carried to the originating network. As a national network option the destination network shall have the possibility to restrict any information identifying the connected party from being returned to the originating network when COLR is applicable. If an originating network receives a connected party ISDN number without any indication of presentation allowed or restricted, the originating network (the host network) will act according to its rules and regulations. For further information see 5.7.

6.7.2 Procedures for interworking with private ISDNs

The procedures specified in 6.5 shall be used.

6.8 Signalling flows

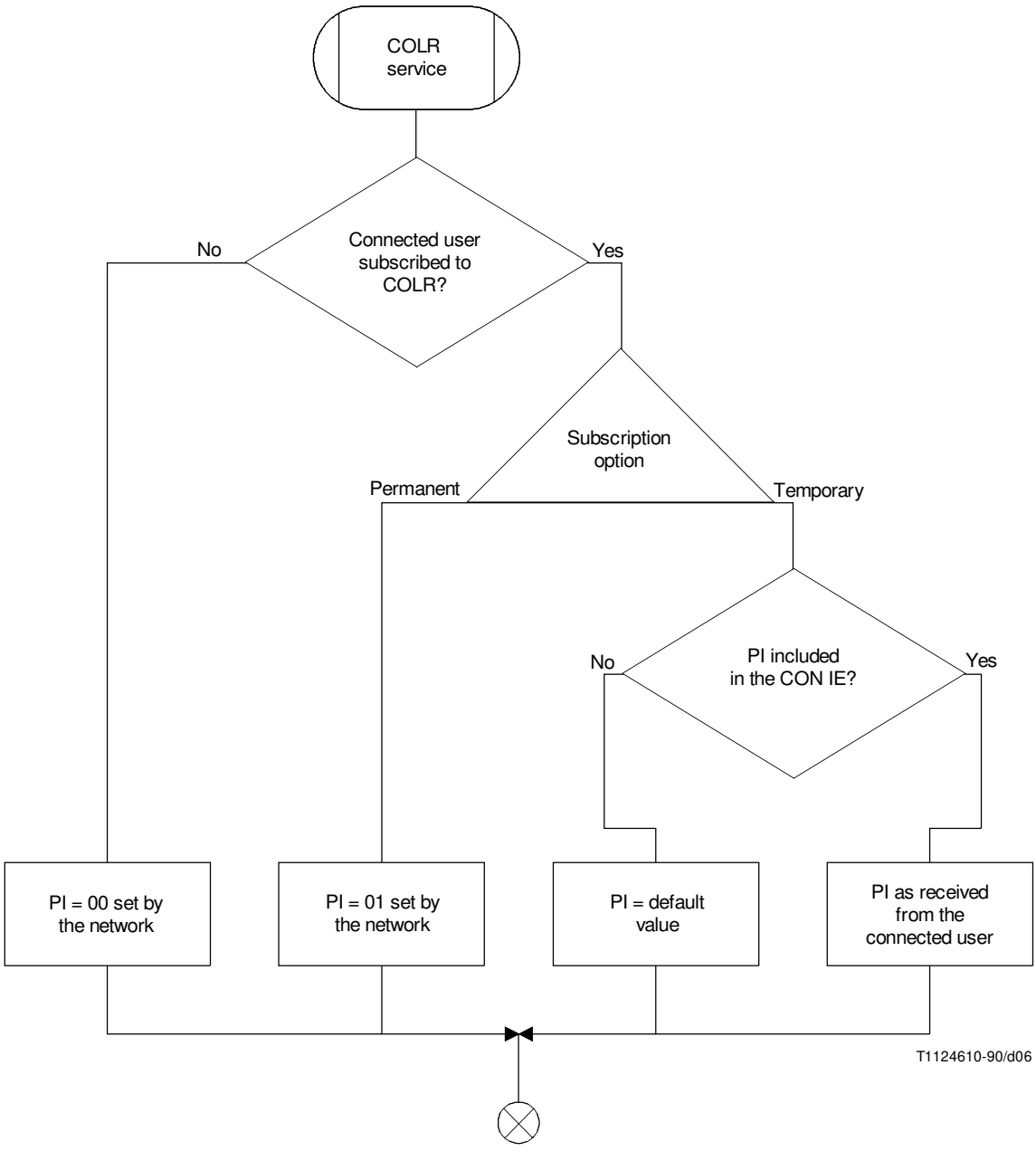
The signalling flows are not included as they form an integral part of the basic call control procedures.

6.9 Parameter values (timers)

No specific timers are required.

6.10 Dynamic description

See Figure 6-1.



PI = 00 “presentation allowed”
PI = 01 “presentation restricted”

FIGURE 6-1/Q.951

Destination network side dynamic description