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**Terrestrial Trunked Radio (TETRA);
Voice plus Data (V+D);
Part 10: Supplementary services stage 1;
Sub-part 1: Call Identification (CI)**



Reference

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Foreword

This European Standard (Telecommunications series) has been produced by ETSI Project Terrestrial Trunked Radio (TETRA).

The present document is part 10, sub-part 1 of a multi-part deliverable covering the Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D), as identified below:

- EN 300 392-1: "General network design";
- EN 300 392-2: "Air Interface (AI)";
- EN 300 392-3: "Interworking at the Inter-System Interface (ISI)";
- ETS 300 392-4: "Gateways basic operation";
- EN 300 392-5: "Peripheral Equipment Interface (PEI)";
- EN 300 392-7: "Security";
- EN 300 392-9: "General requirements for supplementary services";
- EN 300 392-10: "Supplementary services stage 1";**
 - EN 300 392-10-1: "Call Identification (CI)";**
 - ETS 300 392-10-2: "Call report";
 - ETS 300 392-10-3: "Talking Party Identification (TPI)";
 - EN 300 392-10-4: "Call Forwarding (CF)";
 - ETS 300 392-10-5: "List Search Call (LSC)";
 - EN 300 392-10-6: "Call Authorized by Dispatcher (CAD)";
 - ETS 300 392-10-7: "Short number addressing";
 - EN 300 392-10-8: "Area Selection (AS)";
 - ETS 300 392-10-9: "Access priority";
 - EN 300 392-10-10: "Priority Call (PC)";
 - EN 300 392-10-11: "Call Waiting (CW)";
 - EN 300 392-10-12: "Call Hold (HOLD)";
 - ETS 300 392-10-13: "Call completion to busy subscriber";
 - EN 300 392-10-14: "Late Entry (LE)";

- ETS 300 392-10-15: "Transfer of control";
- ETS 300 392-10-16: "Pre-emptive Priority Call (PC)";
- EN 300 392-10-17: "Include Call (IC)";
- EN 300 392-10-18: "Barring of Outgoing Calls (BOC)";
- EN 300 392-10-19: "Barring of Incoming Calls (BIC)";
- ETS 300 392-10-20: "Discreet Listening (DL)";
- EN 300 392-10-21: "Ambience Listening (AL)";
- EN 300 392-10-22: "Dynamic Group Number Assignment (DGNA)";
- ETS 300 392-10-23: "Call completion on no reply";
- ETS 300 392-10-24: "Call Retention (CRT)";
- EN 300 392-11: "Supplementary services stage 2";
- EN 300 392-12: "Supplementary services stage 3";
- ETS 300 392-13: "SDL model of the Air Interface (AI)";
- ETS 300 392-14: "Protocol Implementation Conformance Statement (PICS) proforma specification";
- TS 100 392-15: "TETRA frequency bands, duplex spacings and channel numbering";
- TS 100 392-16: "Network Performance Metrics";
- TS 100 392-17: "TETRA V+D and DMO Release 1.1 specifications".

National transposition dates	
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1 Scope

The present document specifies the following identification supplementary services: Calling Line Identification Presentation (SS-CLIP), Connected Line Identification Presentation (SS-COLP), Calling Line Identification Restriction (SS-CLIR) and Connected Line Identification Restriction (SS-COLR), which are applicable to various basic services supported by TETRA Switching and Management Infrastructures (SwMIs). TETRA basic services are specified in EN 300 392-2 [1].

Calling Line Identification Presentation (SS-CLIP) is a supplementary service which is offered to the connected user and which provides the calling user's TETRA number to the connected user.

Connected Line Identification Presentation (SS-COLP) is a supplementary service which is offered to the calling user and which provides the called (connected) user's TETRA number to the calling user.

Calling Line Identification Restriction (SS-CLIR) is a supplementary service offered to a calling user to restrict presentation of that user's TETRA number to another user.

Connected Line Identification Restriction (SS-COLR) is a supplementary service offered to a connected user to restrict presentation of that user's TETRA number to another user.

NOTE 1: For readability of the present document, and contrary to ECMA-148 [2], SS-CLIR and SS-COLR are split in the present document.

As a TETRA network implementation option, override capability shall be provided to selected users; for a group call, override shall be defined against the group identity and not against each individual member of the group.

NOTE 2: This capability is provided in ECMA-148 [2].

Supplementary service specifications are produced in three stages, according to the method described in ETS 300 387 [6]. The present document contains the stage 1 specifications of SS-CLIP, SS-COLP and SS-CLIR. The stage 1 descriptions specify the supplementary services as seen by users of SwMIs.

The present document is applicable to circuit mode TETRA teleservices and bearer services only.

This first version of the present document was presented as a delta document to ECMA-148 [2]. This version has been redrafted still based on the text of ECMA-148 [2] but includes now the full applicable text so as to be more readable.

2 References

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

- References are either specific (identified by date of publication and/or edition number or version number) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies.

Referenced documents which are not found to be publicly available in the expected location might be found at <http://docbox.etsi.org/Reference>.

- [1] ETSI EN 300 392-2 "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 2: Air Interface (AI)".
- [2] Standard ECMA-148 (1997): "Private Integrated Services Network (PISN) - Specification, Functional Model and Information Flows - Identification Supplementary Services (ISSD), 3rd edition".
- [3] ITU-T Recommendation I.112: "Vocabulary of terms for ISDNs".

- [4] ITU-T Recommendation I.210: "Principles of telecommunication services supported by an ISDN and the means to describe them".
- [5] ITU-T Recommendation Q.9: "Vocabulary of switching and signalling terms".
- [6] ETSI ETS 300 387: "Private Telecommunication Network (PTN); Method for the specification of basic and supplementary services".
- [7] ITU-T Recommendation Z.100: "Specification and Description Language (SDL)".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the following terms and definitions apply:

bearer service: type of telecommunication service that provides the capability for the transmission of signals between user-network interfaces

NOTE: See ITU-T Recommendation I.112 [3].

Line Station (LS): physical grouping that contains all of the fixed equipment that is used to obtain terrestrial access to TETRA services

Mobile Station (MS): physical grouping that contains all of the mobile equipment that is used to obtain TETRA services

NOTE: By definition, a mobile station contains at least one Mobile Radio Stack (MRS).

supplementary service: any service provided by a network in addition to its basic service or services

NOTE 1: See ITU-T Recommendation Q.9 [5].

NOTE 2: A supplementary service modifies or supplements a basic telecommunication service.

NOTE 3: A supplementary service cannot be offered to a customer as a stand alone service. It should be offered together with or in combination with a basic telecommunication service (see ITU-T Recommendation I.210) [4]

Switching and Management Infrastructure (SwMI): all of the TETRA equipment for a Voice plus Data (V+D) network

NOTE: The SwMI enables subscriber terminals to communicate with each other via the SwMI.

teleservice: type of telecommunications service that provides the complete capability, including terminal equipment functions, for communication between users according to agreed protocols

NOTE: Defined in ITU-T Recommendation I.112 [3] except for a minor change at the end.

3.2 Abbreviations

3.2.1 General abbreviations

For the purposes of the present document, the following general abbreviations apply:

CGLI	CallinG Line Identification (ECMA)
GTSI	Group TETRA Subscriber Identity
ISDN	Integrated Services Digital Network
ISI	Inter System Interface
ITSI	Individual TETRA Subscriber Identity
LS	Line Station
MS	Mobile Station
SDL	(Functional) Specification and Description Language
SS	Supplementary Service

NOTE: The abbreviation SS is only used when referring to a specific supplementary service.

SwMI	Switching and Management Infrastructure
TETRA	Trans-European Trunked RAdio
V+D	Voice Plus Data

3.2.2 Supplementary service abbreviations

For the purposes of the present document the following supplementary services abbreviations apply:

AL	Ambience Listening
ANF	Additional Networks Feature
AS	Area Selection
BIC	Barring of Incoming Calls
BOC	Barring of Outgoing Calls
CAD	Call Authorized by Dispatcher
CCBS	Call Completion to Busy Subscriber
CCNR	Call Completion on No Reply
CLIP	Calling Line Identification Presentation
CLIR	Calling Line Identification Restriction

NOTE: Occasionally, CLIR may also be an abbreviation of Connected Line identification Restriction in the present document when no need to distinguish between CLIR and COLR exists.

COLP	COnnected Line identification Presentation
COLR	COnnected Line identification Restriction
CR	Call Report
CRT	Call Retention
CW	Call Waiting
DGNA	Dynamic Group Number Assignment
DL	Discreet Listening
HOLD	Call Hold
IC	Include Call
LE	Late Entry
LSC	List Search Call
PC	Priority Call
TPI	Talking Party Identification

4 SS-CLIP stage 1 specification

4.1 Description

4.1.1 General description

The SwMI provides the connected user with the identity of the calling user upon presentation of an incoming call whether an individual or a group call. In the case of an incoming group call, SS-CLIP shall present the identity of the calling user setting up the group, not the GTSI which is already presented in the basic call set-up and not the group owner ITSI. The identity provided should be sufficient to enable the connected user to return the call.

4.1.2 Qualifications on applicability to telecommunication services

SS-CLIP is applicable to all circuit mode tele and bearer services.

4.2 Procedure

4.2.1 Provision/withdrawal

Provision and withdrawal of SS-CLIP shall be by pre-arrangement with the service provider.

SS-CLIP shall be on a per TETRA number (ITSI/GTSI) basis. For each ITSI/GTSI, the supplementary service may be provided by subscription for every basic service subscribed to at that ITSI/GTSI.

Some users may have a service profile which permits the override of calling line identification restriction.

4.2.2 Normal procedures

4.2.2.1 Activation/deactivation/definition/interrogation

SS-CLIP shall be either permanently activated upon provision or permanently deactivated upon withdrawal. There is no need for definition and therefore no interrogation procedure.

4.2.2.2 Invocation and operation

The SwMI shall provide the connected user with the calling user identity at the same time as indicating an incoming call.

In some cases where calling line identification restriction has been invoked, there may be certain categories of connected user that have the service profile to override this restriction and have the calling user identity presented, e.g. emergency stations, dispatchers. In these circumstances, presentation shall include an indication that restriction has been invoked.

4.2.3 Exceptional procedures

4.2.3.1 Activation/deactivation/registration/interrogation

Not applicable.

4.2.3.2 Invocation and operation

There are two exceptions when the calling user identity is not presented to the connected user:

- when calling line identification restriction has been invoked (see definition of Calling/Connected Line Identification Restriction) and the connected user does not have the service profile to override this restriction; and
- when the calling user identity is not available, e.g. due to interworking with the analogue telephone network (PSTN) when this network does not provide CLIP.

In such cases the connected user shall receive an indication of the situation.

4.3 Interaction with other supplementary services and ANFs

Interactions with other TETRA supplementary services and ANFs are specified below.

NOTE 1: The interaction with other supplementary services is based either on the available TETRA standards at the time of publication of the present document or an anticipated specification of this interaction.

NOTE 2: Beside cases where interactions do exist, the interactions have been split in two categories: no possible interaction (indicating total independence of the supplementary service with SS-CLIP), this supplementary service shall not have any interaction with SS-CLIP (indicating that there could have been a possible interaction which has to be avoided).

4.3.1 Calling Line Identification Restriction (SS-CLIR)

The calling user identity shall not be presented if calling line identification restriction has been invoked at the calling user, unless the connected user has the service profile to override this restriction.

4.3.2 Connected Line Identification Presentation (SS-COLP)

No possible interaction.

4.3.3 Connected Line Identification Restriction (SS-COLR)

No possible interaction.

4.3.4 Call report

Call identification shall not have any interaction with call report.

4.3.5 Talking party identification

When both SS-TPI and SS-CLIP have been activated and when the calling user is the talking/sending user at set-up time, SS-TPI and SS-CLIP (operations) shall interact so that the calling/talking/sending party identity shall be sent only once to the connected user(s) at set-up time.

NOTE: No interaction is specified for SS-TPI and SS-CLIP operations at set-up time when still in the same situation (both SS-TPI and SS-CLIP activated and the calling user being the talking/sending user at set-up time), in addition, SS-CLIR has been invoked for the calling user i.e. the information that SS-CLIR has been invoked for the calling user is delivered independently by both SS-TPI and SS-CLIP operations at set-up time.

4.3.6 Call forward unconditional

Unless restriction applies, the identity of the calling user shall be provided to the diverted-to user (if SS-CLIP has been subscribed to for the latter user). In addition, unless restriction applies, the diverting user, (users if the call is diverted more than once), may receive the identity of the calling user as part of any notification to the diverting user that a call has been diverted.

4.3.7 Call forwarding on subscriber busy

Diverted-to users, who have subscribed to SS-CLIP shall receive the calling user's identity unless SS-CLIR applies and the diverted-to user has no override capability. If subscribed to SS-CLIP, the diverting user receives the Calling line Identification of all calls, unless SS-CLIR applies and the served user has no override capability.

4.3.8 Call forwarding on no reply

As for call forwarding on subscriber busy.

4.3.9 Call forwarding on not reachable

No possible interaction.

4.3.10 List search call

No possible interaction.

4.3.11 Call authorized by dispatcher

Call identification shall not have any interaction with call authorized by dispatcher. Once the dispatcher has authorized the call, SS-CLIP shall be operated for the connected user; the content of SS-CLIP shall relate to the calling user identity. The dispatcher gets the identity of the calling user as part of SS-CAD operation without having subscribed to it and if he did subscribed to SS-CLIP he will get it twice.

4.3.12 Short number addressing

No possible interaction.

4.3.13 Area selection

No possible interaction.

4.3.14 Access priority

No possible interaction.

4.3.15 Priority call

No possible interaction.

4.3.16 Call waiting

The user shall be presented with the identity of the calling user at the time the call waiting indication is given to the connected user, unless restriction applies.

4.3.17 Call hold

Call identification shall not have any interaction with call hold.

4.3.18 Call completion to busy subscriber

Unless restriction applies, the identity of the calling user shall be provided to the connected user when the call is eventually offered to that user.

4.3.19 Late entry

No possible interaction.

4.3.20 Transfer of control

No possible interaction.

4.3.21 Pre-emptive priority call

No possible interaction.

4.3.22 Include call

Call identification shall not have any interaction with include call. At the time of the operation of include call, both calls are assumed to have been completed and SS-CLIP assumed to be back to idle. At the time the present document is drafted Include Call is not yet fully defined.

4.3.23 Advice of charge

No possible interaction.

4.3.24 Barring of outgoing calls

No possible interaction.

4.3.25 Barring of incoming calls

No possible interaction.

NOTE: The user who is barred of incoming call shall not receive any call and SS-CLIP shall never be invoked for that user.

4.3.26 Discreet listening

The identity of the calling user (monitoring user) shall not be presented to the parties of an ongoing call.

For the monitoring user, the SS-DL information shall include the identity of the calling user in the call being monitored, whether or not the later has invoked SS-CLIR.

NOTE: SS-DL does not constitute a full actual call.

4.3.27 Ambience listening

If the connected MS (or LS) subscriber has subscribed to calling line identification presentation, the connected MS (or LS) shall not display the identity of the ambient listener.

4.3.28 Dynamic group number assignment

No possible interaction.

4.3.29 Call completion on no reply

Unless restriction applies, the identity of the calling user shall be provided to the connected user when the call is eventually offered to that user.

4.3.30 Call retention

No possible interaction.

4.3.31 Interaction with ANF Mobility Management

User of SS-CLIP shall be allowed to migrate to another SwMI without affecting the service offered to him by SS-CLIP provided the other SwMI supports SS-CLIP.

4.4 Interworking considerations

4.4.1 Incoming calls

The identity presented should be sufficient to unambiguously identify the calling user. The "intelligent network" shall use the information accompanying the CLIP to determine how to recall the calling external user (type of number, numbering plan). The external number may be accompanied by "screening indicators" (user provided, network passed and verified/network provided/user provided, not screened) which do not need to be presented to the connected user.

On calls incoming from another network, the calling user number, and calling user sub-address, if available, are obtained from the other network.

Where no number is provided by the other network, the connected user shall be given an indication "number unavailable due to interworking" or "presentation restricted" in the case where SS-CLIR has been invoked by the calling user of the other network, as appropriate.

4.4.2 Outgoing calls

This TETRA supplementary service does not apply to outgoing calls.

NOTE: An interworking gateway may send to the non-TETRA network a number corresponding to the TETRA calling user in the case where the interworking network provides its SS-CLIP (e.g. ISDN or PISN).

4.5 Overall SDL

Figure 1 contains the dynamic description of SS-CLIP using the Specification and Description Language (SDL) defined in ITU-T Recommendation Z.100 [7]. The SDL process represents the behaviour of the calling user SwMI in providing SS-CLIP. The relationship of this process to the basic call process is indicated in the annotations.

Output signals to the right represent primitives to the connected user. Input signals from the left represent internal stimuli.

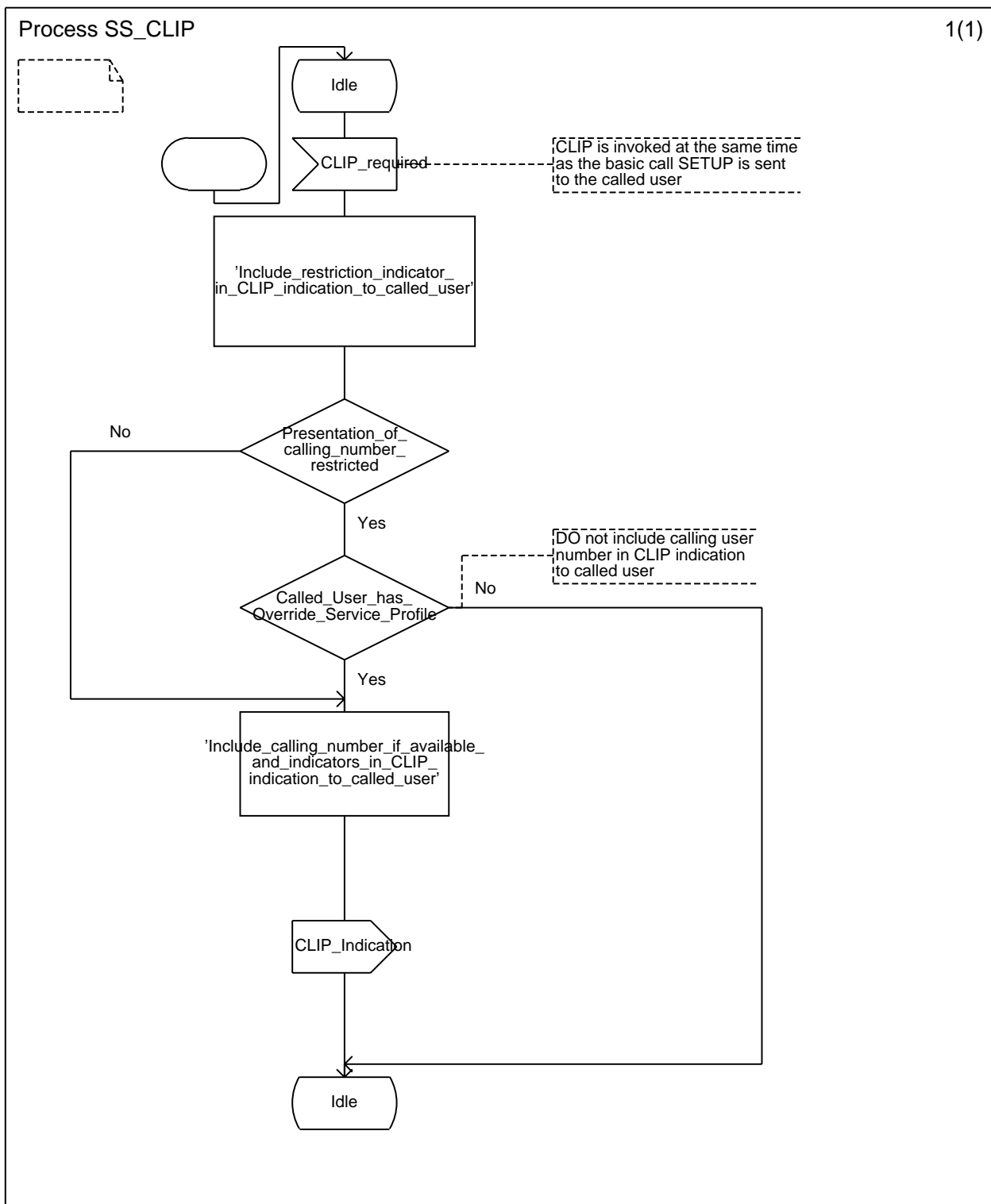


Figure 1: SS-CLIP, overall SDL

5 SS-COLP stage 1 specification

5.1 Description

5.1.1 General description

The SwMI provides the calling user with the TETRA identity of the called user (connected user identity) when the connected user connects to the incoming call. In the case of an individual call, the ITSI of the connected user shall be provided; in the case of a group call, the GTSI shall be provided to the calling user. The identity provided should be sufficient to enable the calling user to repeat the call.

NOTE 1: The identity provided is the identity of the connected user. Interactions with certain supplementary services may cause the connected user identity to differ from the called user identity requested by the calling user.

NOTE 2: In the case of interworking, the number provided is the number of the connected user on the non-TETRA network in the case where that non TETRA network support that SS-COLP (ISDN for example).

5.1.2 Qualifications on applicability to telecommunication services

SS-COLP is applicable to all circuit mode tele and bearer services.

5.2 Procedure

5.2.1 Provision/withdrawal

Provision and withdrawal of SS-COLP shall be by pre-arrangement with the service provider.

SS-COLP shall be on a per TETRA number (ITSI/GTSI) basis. For each ITSI/GTSI, the supplementary service may be provided by subscription for every basic service subscribed to at that ITSI/GTSI.

Some users may have a service profile which permits the override of connected line identification restriction.

5.2.2 Normal procedures

5.2.2.1 Activation/deactivation/definition/interrogation

SS-COLP shall be either permanently activated upon provision or permanently deactivated upon withdrawal. There is no need for definition and therefore no interrogation procedure.

5.2.2.2 Invocation and operation

The calling user, when notified that call establishment is complete, shall be presented with the connected user number.

In some cases where connected line identification restriction has been invoked, there may be certain categories of calling user that have the service profile to override this restriction and have the connected user number presented, e.g. emergency stations, dispatchers. In these circumstances, presentation shall include an indication that restriction has been invoked.

5.2.3 Exceptional procedures

5.2.3.1 Activation/deactivation/definition/interrogation

Not applicable.

5.2.3.2 Invocation and operation

There are two exceptions when the connected user identity is not presented to the calling user:

- when connected line identification restriction has been invoked (see definition of Calling/Connected Line Identification Restriction) and the calling user does not have the service profile to override this restriction;
- when the connected user number is not available, e.g. due to interworking with some analogue telephone networks (PSTN).

In such cases the calling user shall receive an indication of the situation such as "number not available due to interworking" or "presentation restricted" as appropriate.

5.3 Interaction with other supplementary services and ANFs

Interactions with other TETRA supplementary services and ANFs are specified below.

NOTE 1: The interaction with other Supplementary Services is based either on the supplementary services for which TETRA standards were available at the time of publication of the present document or an evaluation of how the supplementary service shall perform once the Standard is published.

NOTE 2: The interactions have been split in three categories: no possible interaction (indicating total independence of the supplementary service with COLP), this supplementary service shall not have any interaction with COLP (indicating that there could have been a possible interaction which has to be avoided) and a description of the interaction when this interaction may happen.

5.3.1 Calling Line Identification Presentation (SS-CLIP)

No possible interaction.

5.3.2 Calling Line Identification Presentation (SS-CLIR)

No possible interaction.

5.3.3 Connected Line Identification Restriction (SS-COLR)

The connected user identity shall not be presented if Connected line identification restriction (COLR) has been invoked at the connected user unless the calling user has the service profile to override this restriction.

NOTE: While CLIR is a common ECMA terminology for both Calling Line Identification and Connected Line Identification Restrictions, the abbreviation COLR Connected Line Identification restriction is used in the Public ISDN standards, will be preferred and when distinction between CLIR and COLR is needed.

5.3.4 Call report

No possible interaction.

5.3.5 Talking party identification

Restriction, in this case, includes not only connected line identification restriction invoked at the final connected user, but also any restriction imposed by the diverting user on calling user notification that diversion has taken place.

When both SS-TPI and SS-COLP have been activated and when the connected user in an individual call is the talking/sending user at set-up time, SS-TPI and SS-COLP (operations) shall interact so that the connected/talking/sending party identity shall be sent only once.

NOTE 1: No interaction is specified for SS-TPI and SS-COLP operations at set-up time when still in the same situation (both SS-TPI and SS-CLIP activated and the calling user being the talking/sending user at set-up time in an individual call), in addition, SS-CLIR has been invoked for the connected user i.e. the information that SS-CLIR has been invoked for the connected user is delivered independently by both SS-TPI and SS-COLP operations at set-up time.

NOTE 2: In the case of a group call, there cannot be any interaction between SS-TPI and SS-COLP since the SS-COLP information (sent to the calling user at set-up time) is the group identity.

NOTE 3: SS-COLP is applicable for group calls where the GTSI of the connected group will be provided to the calling user.

5.3.6 Call forwarding unconditional

The calling user receives the contents of SS-COLP, which shall relate to the forwarded-to user that connected the call.

5.3.7 Call forwarding on subscriber busy

As for call forwarding unconditional.

5.3.8 Call forwarding on no reply

As for call forwarding unconditional.

5.3.9 Call forwarding on not reachable

As for call forwarding unconditional.

5.3.10 List search call

No possible interaction.

5.3.11 Call authorized by dispatcher

After a call has been authorized the calling user can be provided with the identity of the called party.

5.3.12 Short number addressing

No possible interaction.

5.3.13 Area selection

No possible interaction.

5.3.14 Access priority

No possible interaction.

5.3.15 Priority call

No possible interaction.

5.3.16 Call waiting

The identity of the user to whom the call has been presented (as part of call waiting operation) shall not be presented to the calling user until the connected user accepts the call; the later applies unless identification restriction applies.

5.3.17 Call hold

No possible interaction.

5.3.18 Call completion to busy subscriber

Unless restriction applies, the calling user shall receive the identity of the user connected to when the call is eventually set-up.

5.3.19 Late entry

No possible interaction.

5.3.20 Transfer of control

No possible interaction.

5.3.21 Pre-emptive priority call

No possible interaction.

5.3.22 Include call

There shall be no interaction; it will be a possible presentation by SS-IC.

Call identification shall not have any interaction with include call. At the time of the operation of include call, both calls are assumed to have been completed and SS-COLP assumed to be back to idle. At the time the present document is drafted, Include Call is not yet fully defined.

5.3.23 Advice of charge

Call identification shall not have any interaction with advice of charge.

5.3.24 Barring of outgoing calls

No possible interaction.

5.3.25 Barring of incoming calls

No possible interaction.

NOTE: As SS-COLP could never be invoked (no incoming calls).

5.3.26 Discreet listening

Should a discreet listening call be made to an ongoing call, no indication of the discreet listening user shall be given to the parties of the ongoing call. The SS-DL takes precedence, even though one/any of the ongoing call users have a service profile which permits the override of connected line identification restriction. The monitoring point ITSI shall be provided in the case of SS-DL call.

5.3.27 Ambience listening

Ambience listening shall not have any interaction with connected line identification presentation.

If the monitoring user has connected line identification presentation, they shall receive the identity of the subscriber that they are ambient listening to.

5.3.28 Dynamic group number assignment

No possible interaction.

5.3.29 Call completion on no reply

Unless restriction applies, the calling user shall receive the identity of the user connected to when the call is eventually set-up.

5.3.30 Call retention

No possible interaction.

5.3.31 Interaction with ANF Mobility Management

User of SS-COLP shall be allowed to migrate to another SwMI without affecting the service offered to him by SS-COLP provided the other SwMI supports SS-COLP.

5.4 Interworking considerations

5.4.1 Outgoing calls

On calls outgoing to another network, the connected user number, and connected user sub-address, if available, are obtained from the other network.

The number presented to the TETRA Gateway by the external network may be accompanied by indications of the numbering plan, the type of number, and some screening indicators. Those indications need not be presented to the calling user who has invoked SS-COLP excepted in the case described below.

In the case where no number is provided by the other network, the calling user shall be given an indication "number unavailable due to interworking" or "presentation restricted", as appropriate.

5.4.2 Incoming calls

This SwMI supplementary service does not apply to incoming calls.

NOTE 1: The possible provision of the connected user number to another network is part of the basic call.

NOTE 2: The provision of the COLI to a calling user outside TETRA network may be accompanied by the screening indicator "network-provided".

5.5 Overall SDL

Figure 2 contains the dynamic description of SS-COLP using the Specification and Description Language (SDL) defined in ITU-T Recommendation Z.100 [7]. The SDL process represents the behaviour of the connected user (line) SwMI in providing SS-COLP. The relationship of this process to the basic call process is indicated in the annotations.

Output signals to the left represent primitives to the calling user. Input signals from the right represent internal stimuli.

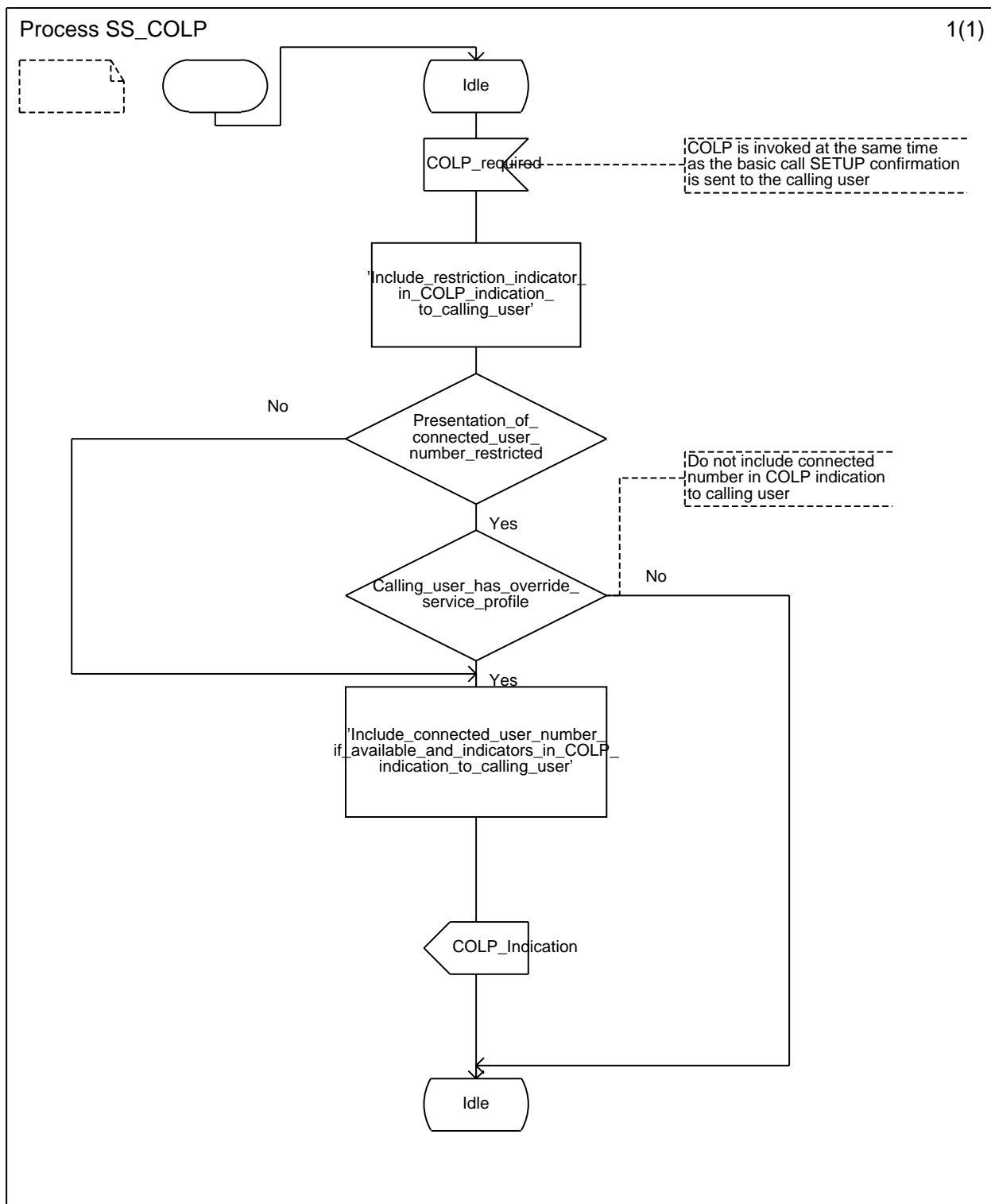


Figure 2: SS-COLP, overall SDL

6 SS-CLIR stage 1 specification

6.1 Description

In this clause, SS-CLIR is split from SS-COLR as is usually the case in Public ISDN and as is not the case in ECMA -148 [2].

6.1.1 General description

When SS-CLIR is invoked by the calling user, the user identity is not normally presented to the connected user.

6.1.2 Qualifications on applicability to telecommunication services

SS-CLIR is applicable to all circuit mode tele and bearer services.

6.2 Procedure

6.2.1 Provision/withdrawal

6.2.1.1 Case of individual calls

SS-CLIR is provided on a service profile basis. A SwMI may provide one or more of several service profile options. The options may apply separately to each individual user identity. Some users may have a service profile which permits the override of calling line identification restriction. Service profile options are summarized in table 1. It may be possible to obtain different service profiles for SS-CLIR and for SS-COLR; defaults for temporary modes for SS-CLIR and SS-COLR shall be independent. For example, SS-CLIR may be activated for all calls from one user while SS-COLR may be deactivated for that same user.

Table 1: Service Profile Options

Service profile options	Values
SS-CLIR mode	permanent (invoked for all calls)
	temporary (specified by user per call)
Default (only for temporary mode)	presentation restricted presentation not restricted

6.2.1.2 Case of group calls

In the case of group calls, SS-CLIR for calling user is applicable.

NOTE: SS-CLIR for GTSI cannot apply (GTSI is always presented as part of the basic group call set-up).

6.2.2 Normal procedures

6.2.2.1 Activation/deactivation/definition/interrogation

The service is activated on provision and deactivated on withdrawal. There is no interrogation procedure available to interrogate one's user default values.

6.2.2.2 Invocation and operation

If permanent mode is provided, restriction shall be invoked automatically for all calls originating at the user concerned. If temporary mode with default "presentation restricted" is provided, restriction shall be invoked automatically for all calls originating at the user concerned, unless requested otherwise by the user at call establishment time. If temporary mode with default "presentation not restricted" is provided, restriction shall not be invoked for any call originating at the user concerned, unless requested otherwise by the user at call establishment time.

To bypass the default for an outgoing call when temporary mode is provided, the calling user shall be able to make a request for restriction or no restriction at the same time as requesting call establishment.

6.2.3 Exceptional procedures

6.2.3.1 Activation/deactivation/definition/interrogation

Not applicable.

6.2.3.2 Invocation and operation

A request from the user for the bypass of a default shall be ignored if the user is not provided with temporary mode.

6.3 Interaction with other supplementary services and ANFs

Interactions with other supplementary services and ANFs for which SwMI standards were available at the time of publication of the present document are specified below.

6.3.1 Calling Line Identification Presentation (SS-CLIP)

The calling user identity shall not be presented if calling line identification restriction has been invoked at the calling user, unless the connected user has the service profile to override this restriction. An indication of SS-CLIR shall be given to the connected user.

6.3.2 Connected Line Identification Presentation (SS-COLP)

The connected user identity shall not be presented if connected line identification restriction has been invoked at the connected user unless the calling user has the service profile to override this restriction. An indication of SS-COLR shall be given to the calling user.

6.3.3 Call report

No possible interaction.

6.3.4 Talking party identification

In the case where SS-CLIR has been invoked for the talking party then that supplementary service shall take precedence over SS-TPI and neither the identity of the talking party nor his mnemonic name shall be given to the other party/parties in the call. However the information that SS-CLIR has been invoked for the talking party shall be delivered as an SS-TPI information.

SS-CLIR may be overridden if a SS-TPI served user has been given the corresponding privilege, but this is outside the scope of the present document.

Restriction, in this case, includes not only connected line identification restriction invoked at the final connected user, but also any restriction imposed by the diverting user on calling user notification that diversion has taken place.

6.3.5 Call forward unconditional

When call forwarding occurs, the identity of a calling SwMI user who has invoked restriction (automatically or on request from the SwMI user) shall not be presented to the diverting user or the diverted-to user, except for the case of a diverting user or diverted-to user with an override service profile (such as SS-DL).

6.3.6 Call forwarding on subscriber busy

As for call forwarding unconditional.

6.3.7 Call forwarding on no reply

As for call forwarding unconditional.

6.3.8 Call forwarding on not reachable

As for call forwarding unconditional.

6.3.9 List search call

No possible interaction.

6.3.10 Call authorized by dispatcher

When outgoing calls are completed via dispatcher authorization, (i.e. the SS-CAD is activated) CLIR shall not be operative and the identity of the user shall be revealed to the dispatcher. However the SS-CLIR shall be operative for incoming calls once authorized by the dispatcher.

6.3.11 Short number addressing

No possible interaction.

6.3.12 Area selection

No possible interaction.

6.3.13 Access priority

No possible interaction.

6.3.14 Priority call

No possible interaction.

6.3.15 Call waiting

No possible interaction.

6.3.16 Call hold

No possible interaction.

6.3.17 Call completion to busy subscriber

SS-CLIR shall not have any interaction with call completion to busy subscriber.

CGLI identification shall not be given to the busy subscriber.

6.3.18 Late entry

No possible interaction.

6.3.19 Transfer of control

No possible interaction.

6.3.20 Pre-emptive priority call

No possible interaction.

6.3.21 Include call

No possible interaction.

6.3.22 Advice of charge

6.3.23 Barring of outgoing calls

No possible interaction.

6.3.24 Barring of incoming calls

No possible interaction.

6.3.25 Discreet listening

The SS-DL shall take precedence over SS-CLIR and the SS-DL monitoring user shall receive the identity of the monitored user. A user who has invoked a discreet listening call shall take precedence over CLIR activated at the connected users service profile and the identity of the connected (monitored) user shall be revealed.

6.3.26 Ambience listening

The AL supplementary service enables a control point to place a TETRA MS (or LS) into a special type of individual voice call teleservice whereby the connected MS (or LS) shall transmit without any action from, or indication to, the connected user.

If invoked by the dispatcher, AL shall not present the identity of the dispatcher to the monitored user who do not need to invoke SS-CLIR for that same purpose.

6.3.27 Dynamic group number assignment

No possible interaction.

6.3.28 Call completion on no reply

SS-CLIR shall not have any interaction with call completion on no reply.

CGLI identification shall not be given.

6.3.29 Call retention

No possible interaction.

6.3.30 Interaction with ANF Mobility Management

User of SS-CLIR shall be allowed to migrate from one SwMI to another SwMI without affecting the service offered to him by SS-CLIR. SS-CLIR Basic Profile for a given user shall be presented and acknowledged to any user visited SwMI to insure continuity of the service.

6.4 Interworking considerations

6.4.1 Incoming calls

If restriction is invoked for a call originating from TETRA network towards a non-TETRA network, the calling user identity shall be marked by the network as "presentation restricted". This prevents presentation to the connected user (unless the connected user has an override service profile). In that same case, there will be no calling user sub address.

This TETRA supplementary service does not apply to the calling user of an incoming call. The other network may provide the equivalent service, in which case the SwMI can receive an indication that presentation of the calling user identity is restricted. In such a situation the other network may or may not supply the calling user identity to the SwMI. If not provided, even a connected user with an override service profile will be given only an indication that presentation is restricted.

NOTE: In the case of an incoming call from a public ISDN, no calling user sub address will be delivered to the SwMI if calling line identification restriction has been invoked.

If the connected user has invoked connected line identification restriction, the connected user identity will be marked as "presentation restricted". This indication shall be passed on to the other network. The provision of the connected user identity to the other network in this situation depends on the arrangement with the other network.

6.4.2 Outgoing calls

This TETRA supplementary service does not apply to the connected user of an outgoing call. A public ISDN may provide the equivalent service, in which case the SwMI can receive an indication that presentation of the connected user identity is restricted. In such a situation the other network may or may not supply the connected user identity to the SwMI. If not provided, even a calling user with an override service profile will be given only an indication that presentation is restricted.

NOTE: In the case of an outgoing call to a public ISDN, no connected user sub address will be delivered to the SwMI if connected line identification restriction has been invoked.

If the calling user has invoked restriction, the calling user identity will be marked as "presentation restricted". This indication shall be passed on to the other network. The provision of the calling user identity to the other network in this situation depends on the arrangement with the other network.

6.5 Overall SDL

Figure 3 contains the dynamic description of SS-CLIR using the Specification and Description Language (SDL) defined in ITU-T Recommendation Z.100 [7]. The SDL process represents the behaviour of the SwMI in providing SS-CLIR.

Input signals from the left represent primitives from the served user and input signals from the right represent internal stimuli.

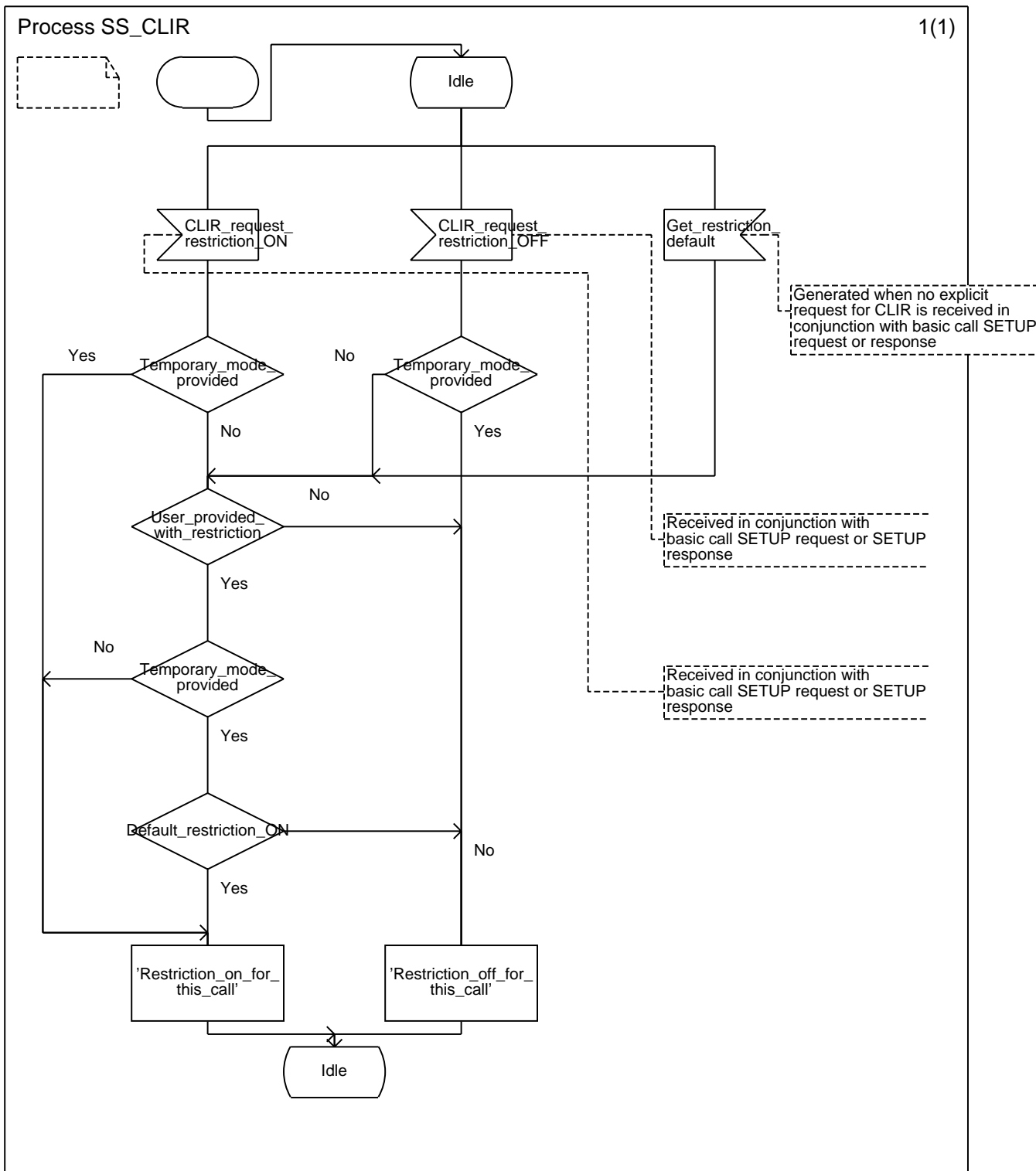


Figure 3: SS-CLIR, overall SDL

7 SS-COLR stage 1 specification

7.1 Description

7.1.1 General description

When SS-COLR applies to a connected user, SS-COLP will be restricted.

7.1.2 Qualifications on applicability to telecommunication services

SS-COLR is applicable to all circuit mode tele and bearer services.

7.2 Procedure

7.2.1 Provision/withdrawal

7.2.1.1 Case of individual calls

SS-COLR is provided on a service profile basis. A SwMI may provide one or more of several service profile options. The options may apply separately to each individual user identity. Some users may have a service profile which permits the override of calling line identification restriction. Service profile options are summarized in table 2. It may be possible to obtain different service profiles for SS-CLIR and for SS-COLR; defaults for temporary modes for SS-CLIR and SS-COLR shall be independent. For example, SS-CLIR may be activated for all calls from one user while SS-COLR may be deactivated for that same user.

Table 2: Service Profile Options

Service profile options	Values
SS-COLR mode	permanent (invoked for all calls)
	temporary (specified by user per call)
Default (only for temporary mode)	presentation restricted
	presentation not restricted

7.2.1.2 Case of group calls

In the case of group calls, SS-COLR shall be applicable. All members of a group shall have the same service profile. In the case of SS-COLR and for group call, only the permanent mode shall be used.

7.2.2 Normal procedures

7.2.2.1 Activation/deactivation/definition/interrogation

The service is activated on provision and deactivated on withdrawal. No information needs to be defined for this supplementary service, and therefore interrogation is not applicable.

7.2.2.2 Invocation and operation

If permanent mode is provided, restriction shall be invoked automatically for all calls terminating at the user concerned. If temporary mode with default "presentation restricted" is provided, restriction shall be invoked automatically for all calls terminating at the user concerned, unless requested otherwise by the user at call establishment time. If temporary mode with default "presentation not restricted" is provided, restriction shall not be invoked for any call terminating at the user concerned, unless requested otherwise by the user at call establishment time.

To use a different value than the default value for an incoming call when temporary mode is provided, the connected user shall be able to make a request for restriction or no restriction at the same time as responding to the incoming call indication.

If restriction is invoked for an incoming call (from a non TETRA network to a TETRA network), the connected user identity shall be marked by the network as "presentation restricted". This prevents presentation to the calling user (unless the calling user has an override service profile). In that same case, there will be no connected user sub address.

7.2.3 Exceptional procedures

7.2.3.1 Activation/deactivation/definition/interrogation

Not applicable. Restriction, in this case, includes not only connected line identification restriction invoked at the final connected user, but also any restriction imposed by the diverting user on calling user notification that diversion has taken place.

7.2.3.2 Invocation and operation

A request from the user for the change of a default shall be ignored if the user is not provided with temporary mode.

7.3 Interaction with other supplementary services and ANFs

Interactions with other supplementary services and ANFs for which SwMI standards were available at the time of publication of the present document are specified below.

7.3.1 Calling Line Identification Presentation (SS-CLIP)

No possible interaction.

7.3.2 Connected Line Identification Presentation (SS-COLP)

The connected user identity shall not be presented if connected line identification restriction has been invoked at the connected user unless the calling user has the service profile to override this restriction. An indication of SS-COLR shall be given to the calling user.

7.3.3 Call report

No possible interaction.

7.3.4 Talking party identification

In the case where SS-COLR has been invoked for the talking party then that supplementary service shall take precedence over SS-TPI and neither the identity of the talking party nor his mnemonic name shall be given to the other party/parties in the call. However the information that SS-COLR has been invoked for the talking party shall be delivered as an SS-TPI information.

SS-COLR may be overridden if a SS-TPI served user has been given the corresponding privilege, but this is outside the scope of the present document.

Restriction, in this case, includes not only connected line identification restriction invoked at the final connected user, but also any restriction imposed by the diverting user on calling user notification that diversion has taken place.

7.3.5 Call forward unconditional

Restriction, in this case, includes not only connected line identification restriction invoked at the final connected user, but also any restriction imposed by the diverting user on calling user notification that diversion has taken place.

A diverted-to SwMI user who has invoked restriction (automatically or on request from the SwMI user) shall not have his identity presented to the calling user, either as SS-COLP or as part of a notification of diversion, unless the calling user has an override service profile. A diverted-to user who is provided with SS-COLR temporary mode shall not have his identity revealed to the calling user as part of notification of diversion until the diverted-to user has responded and it is known that restriction is not to be invoked, unless the calling user has an override service profile.

NOTE: The invocation of SS-COLR at the diverting user has no impact on the presentation of the diverting user's identity to the calling user. These presentations are governed by options in the various diversion services.

In each of the above situations, a calling user that subscribes to SS-COLP and who has override capability shall not be able to receive the diverted-to user's identity as part of the diverting notification information, but can invoke SS-COLP with override in order to receive the connected line identity when the call is actually answered.

7.3.6 Call forwarding on subscriber busy

As for call forwarding unconditional.

7.3.7 Call forwarding on no reply

As for call forwarding unconditional.

7.3.8 Call forwarding on not reachable

As for call forwarding unconditional.

7.3.9 List search call

No possible interaction.

7.3.10 Call authorized by dispatcher

When outgoing calls are completed via dispatcher authorization, (i.e. the SS-CAD is activated) SS-COLR shall be operative for incoming calls once authorized by the dispatcher.

7.3.11 Short number addressing

No possible interaction.

7.3.12 Area selection

No possible interaction.

7.3.13 Access priority

No possible interaction.

7.3.14 Priority call

No possible interaction.

7.3.15 Call waiting

No possible interaction.

7.3.16 Call hold

No possible interaction.

7.3.17 Call completion to busy subscriber

Call identification shall not have any interaction with call completion to busy subscriber.

7.3.18 Late entry

No possible interaction.

7.3.19 Transfer of control

No possible interaction.

7.3.20 Pre-emptive priority call

No possible interaction.

7.3.21 Include call

No possible interaction.

7.3.22 Advice of charge

No possible interaction.

7.3.23 Barring of outgoing calls

No possible interaction.

7.3.24 Barring of incoming calls

No possible interaction.

7.3.25 Discreet listening

The SS-DL shall take precedence over SS-COLR and the SS-DL monitoring user shall receive the identity of the monitored user. A user who has invoked a discreet listening call shall take precedence over COLR activated at the connected users service profile and the identity of the connected (monitored) user shall be revealed.

7.3.26 Ambience listening

Dispatcher invoked:

Call identification shall not have any interaction with ambience listening.

Should the dispatcher invoke the supplementary service "ambience listening", in order to monitor activity in a terminal of interest, then the dispatcher's identity shall not be presented to the listened-to user.

Self invoked:

In the case where the monitoring user has been connected to the connected subscriber and the latter has subscribed to connected line identification restriction, then the ambient listening supplementary service shall take precedence and the connected subscribers line shall be presented to the monitoring user.

7.3.27 Dynamic group number assignment

No possible interaction.

7.3.28 Call completion on no reply

Call identification shall not have any interaction with call completion on no reply.

7.3.29 Call retention

No possible interaction.

7.3.30 Interaction with ANF Mobility Management

User of SS-COLR shall be allowed to migrate from one SwMI to another SwMI without affecting the service offered to him by SS-COLR. SS-COLR Basic Profile for a given user shall be presented and acknowledged to any user visited SwMI to insure continuity of the service.

7.4 Interworking considerations

7.4.1 Incoming call

If restriction is invoked for an incoming call (from a non TETRA network to a TETRA network), the connected user identity shall be marked by the network as "presentation restricted". This prevents presentation to the calling user (unless the calling user has an override service profile). In that same case, there will be no connected user sub address.

This TETRA supplementary service does not apply to the connected user of an incoming call. The other network may provide the equivalent service, in which case the SwMI can receive an indication that presentation of the connected user identity is restricted. In such a situation the other network may or may not supply the connected user identity to the SwMI. If not provided, even a calling user with an override service profile will be given only an indication that presentation is restricted.

If the connected user has invoked connected line identification restriction, the connected user identity will be marked as "presentation restricted". This indication shall be passed on to the other network. The provision of the connected user identity to the other network in this situation depends on the arrangement with the other network.

7.5 Overall SDL

The overall SDL of SS-COLR is identical to the overall SDL of SS-CLIR in clause 6.5.

Annex A (informative): Bibliography

ITU-T Recommendation I.130 (1988): "Method for the characterization of telecommunication services supported by an ISSN and network capabilities of an ISDN".

ETSI EN 300 392-9: "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 9: General supplementary service design".

ETSI EN 300 392-3-1: "TETRA Voice plus Data (V+D); Part 3: Interworking at the Inter-System Interface (ISI); Sub-part 1: General design".

Annex B (informative): Change Requests

The present version contains Change Requests as described in table 1.

Table B.1: Change Requests

No	CR vers.	Standard Version	Clauses affected	Title	CR Status
001	20	Ed 1	5.3.6, 5.3.11	Corrections based on updates to other SS standards.	WG3 approved 03030, re-approved 030409
002	01	Ed 1	various	Editorial corrections	proposal

History

Document history		
Edition 1	April 1996	Publication as ETS 300 392-10-1
Edition 2	May 1999	Publication as ETS 300 392-10-1
V1.3.0	August 2003	One-step Approval Procedure OAP 20031219: 2003-08-20 to 2003-12-19
V1.3.1	January 2004	Publication