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Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 10: Supplementary services stage 1; Sub-part 11: Call Waiting (CW)

ETSI

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Contents

Foreword

This European Telecommunication Standard (ETS) has been produced by the Terrestrial Trunked Radio (TETRA) Project of the European Telecommunications Standards Institute (ETSI).

This ETS is a multi-part standard and will consist of the following parts:

Part 1: "General network design";

Part 2: "Air Interface (AI)";

Part 3: "Interworking at the Inter-System Interface (ISI)";

Part 4: "Gateways basic operation";

Part 5: "Peripheral Equipment Interface (PEI)";

Part 6: "Line connected Station (LS)";

Part 7: "Security";

Part 9: "General requirements for supplementary services";

Part 10: "Supplementary services stage 1";

Part 11: "Supplementary services stage 2";

Part 12: "Supplementary services stage 3";

Part 13: "SDL model of the Air Interface (AI)";

Part 14: "Protocol Implementation Conformance Statement (PICS) proforma specification".

Transposition dates	
Date of adoption of this ETS:	14 January 2000
Date of latest announcement of this ETS (doa):	30 April 2000
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1 Scope

This European Telecommunication Standard (ETS) defines the stage 1 description of the call waiting supplementary service (SS-CW) for the Terrestrial Trunked Radio (TETRA) as provided by European operators. The stage 1 description is an overall service description from the user point of view but does not deal with the details of the human interface itself (see CCITT Recommendation I.130 [1]).

SS-CW permits a called user to acknowledge an incoming individual call while he is already busy. Subsequently that user shall have the choice to accept, reject or ignore that incoming call.

This ETS specifies the service description of the supplementary service and the procedures to be expected with successful and unsuccessful outcomes. In addition this ETS specifies the interactions with other TETRA supplementary services and inter-working considerations.

Charging principles are outside the scope of this ETS.

2 Normative references

This ETS incorporates by dated and undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this ETS only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

[1] CCITT Recommendation I.130: "Method for the characterization of telecommunication services supported by an ISDN and network capabilities of an ISDN".

[2] ITU-T Recommendation Z.100: "CCITT Specification and description language (SDL)".

[3] ETS 300 392-2: "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 2: Air Interface (AI)".

[4] ETS 300 392-9: "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 9: General requirements for supplementary services".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of this ETS, the definitions of ETS 300 392-9 [4] apply, except for that of served user, which is given below together with other ones which also apply:

served user: user who may invoke the supplementary service (i.e. acknowledge an incoming individual while he is busy, instead of clearing it).

timer T2: measures the waiting time for the offered call from user C to be either accepted or cleared by the served user B after SS-CW has been invoked. This timer is a network basic call timer. It corresponds to the basic call timer T304 on the called user side (see clause 14 of ETS 300 392-2 [3]).

user A: user engaged in an individual call with the served user (this call can be in any state).

NOTE: There is no user A when the call in which the served user is engaged when he receives an incoming individual call is a group call.

user C: user who has originated an individual call to the served user while that served user is busy (i.e. the served user may invoke the call waiting supplementary service for the call from user C).

3.2 Abbreviations

3.2.1 General abbreviations

For the purposes of this ETS, the following general abbreviations apply:

ISDN	Integrated Services Digital Network
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.

3.2.2 Supplementary service abbreviations

For the purposes of this ETS, the following supplementary service abbreviations apply:

CAD	Call Authorized by Dispatcher
CCBS	Call Completion to Busy Subscriber
CFB	Call Forwarding on Busy
CFNRc	Call Forwarding on Not Reachable
CFNRy	Call Forwarding on No Reply
CFU	Call Forwarding Unconditional
CW	Call Waiting

4 SS-CW stage 1 specification

4.1 Description

4.1.1 General description

SS-CW permits a called user to acknowledge an incoming individual call while he is already busy. That call shall then be qualified as a waiting call. Subsequently that user shall have the choice to accept, reject or ignore the waiting call.

4.1.2 Qualifications on applicability to telecommunication services

This supplementary service shall be applicable to all circuit mode individual teleservices and bearer services.

4.2 Procedures

4.2.1 Provision/withdrawal

The provision of SS-CW shall be on a per individual subscriber basis, or as a network option general for all (TETRA) individual subscribers. The corresponding subscriptions shall be valid for all basic services for which SS-CW applies (see subclause 4.1.2).

The supplementary service shall be withdrawn by the service provider:

- for administrative purposes; or

- at the request of the served user, if individually provided.

No specific information shall then be given to the subscribers by the network.

4.2.2 Normal procedures

4.2.2.1 Activation, deactivation, definition, registration, interrogation and cancellation

4.2.2.1.1 Activation/Deactivation

The CW supplementary service shall be activated by the service provider upon provision.

The CW supplementary service shall be deactivated by the service provider upon withdrawal.

The served user should also be able to activate/deactivate the service after provision.

4.2.2.1.2 Definition

Not applicable.

4.2.2.1.3 Registration

Not applicable.

4.2.2.1.4 Interrogation

Not applicable.

4.2.2.1.5 Cancellation

Not applicable.

4.2.2.2 Invocation

If SS-CW has been activated for the served user, when a new individual call is addressed to that user and the network has determined that such user is already engaged in a call (i.e. that user is then in the busy state whether he participates in an individual call or in a group call), the network shall offer that call to him unless it has already reached the maximum number of such additional calls.

NOTE 1: In ISDN, the case just addressed (where the network cannot present a new additional call when the called user is busy) is one of those corresponding to the situation defined as "Network Determined User Busy" (NDUB).

When the served user is offered such incoming individual call (from user C) while being busy, he shall be able to invoke SS-CW. He shall do so in sending a positive response to the offered call within the same predefined period of time as for sending a basic call response.

The same shall apply if the network offers a new incoming individual call to the served user without knowing that he is in the busy state.

NOTE 2: The served user may be in the busy state without the network knowing it when the served user participates in a group call.

The served user may be able to invoke SS-CW for more than one incoming individual call. However the maximum number of waiting calls at any one time per busy subscriber shall be a network option, and it is recommended that that maximum number be one.

4.2.2.3 Operation

When the called user has invoked SS-CW for a call (incoming individual):

- except for specific applications if the initial values of the basic call timers T304 (see clause 14 of ETS 300 392-2 [3]) in his terminal equipment and T2 in the network are less than 30 seconds, they should be set at least to 30 seconds;

- the network shall apply the individual basic call procedure for informing user C that:

- the basic call hook selection is on/hook off signalling;

- the called user has been offered the call.

- in addition the network shall notify user C that SS-CW has been invoked for his call.

If the served user is participating in an individual call, with user A, he should free resources (i.e. especially air interface resources in the case of a MS) before requesting the network to connect the waiting call from user C. To do so: either:

- he or user A shall clear the (active) individual call; or

- he shall invoke the call hold individual supplementary service.

If the served user is participating in a group call without being the call owner, according to the group call procedures, he will be able to immediately leave that call and answer the waiting call without affecting the ongoing group call. If he is the call owner, it is an implementation matter whether he will be able to immediately leave the group call to answer the waiting call without first having first either cleared the group call or transferred its control to another group member - using the supplementary service transfer of control.

To accept a waiting call (after having freed resources following the above recommendation if the active call was an individual call), the served user shall use the basic call procedure.

Any previous waiting indication to the served user should then be removed in the served user MS/LS.

If the served user has invoked SS-CW for more than one call, he shall be able to accept any such waiting call, unless that call has been cleared in the meantime. The network shall connect that call:

if
- the served user has not changed location since he has invoked SS-CW for that call;

or if
- the served user has changed location since he has invoked SS-CW for that call and both his terminal equipment and the network support the optional SS-CW location change procedure.

NOTE 1: See subclause 4.2.3.2 for the case where the network cannot satisfy the request because the served user has changed location since he has invoked SS-CW for the call and the network does not support the SS-CW location change procedure.

NOTE 2: If user C changes location while the call is waiting, the call restoration procedure for basic call may apply.

4.2.3 Exceptional procedures

4.2.3.1 Activation, deactivation, definition, registration, interrogation and cancellation

4.2.3.1.1 Activation/Deactivation

The served user activation request may fail when SS-CW has not been subscribed for that user.

The network shall then indicate such failure to the served user in giving him the corresponding reason.

4.2.3.1.2 Definition

Not applicable.

4.2.3.1.3 Registration

Not applicable.

4.2.3.1.4 Interrogation

Not applicable.

4.2.3.1.5 Cancellation

Not applicable.

4.2.3.2 Invocation and operation

4.2.3.2.1 Invocation

The following exceptional procedures shall apply for SS-CW invocation.

NOTE: The case where the network does not receive any response from the served user after it has offered a new incoming call to him within a predefined period of time is part of basic call exceptional procedures and not of SS-CW exceptional procedures.

4.2.3.2.1.1 Maximum number of waiting calls reached

If the served user invokes SS-CW for a new incoming call when the number of calls which he still has in the call waiting state is equal to the maximum number of such calls (see subclause 4.2.2.2), the network shall reject that invocation in informing the served user about such rejection and giving him the corresponding cause. The network shall then clear the call with the disconnect cause: called party busy.

NOTE: The above situation may only arise if the maximum number of calls which can be waiting is less than the maximum number of additional calls that the network can offer to the served user. Otherwise (see subclause 4.2.2.2), no new call will be presented to the served user in that situation - and therefore no SS-CW invocation for that call can be received from the served user.

4.2.3.2.1.2 SS-CW deactivated

When the served user (for whom SS-CW has been subscribed) has deactivated SS-CW:

- first the network should avoid presenting new incoming individual calls to that user when it knows that he is busy;

- second if the network presents such new calls (e.g. when the called user is busy because he participates in a group call without the network knowing it) and if the served user attempts to invoke SS-CW for one such call, the network shall reject that invocation in informing the served user about such rejection and giving him the corresponding cause. If the network knew that the called user was busy when it offered the call to the served user, it shall then clear the call with the disconnect cause: called party busy.

4.2.3.2.2 Operation

4.2.3.2.2.1 Waiting call cleared by the served user

The served user shall be able to clear a waiting call using the basic call procedures. He shall then be able to choose between two reasons for such clearing in indicating that: either

- he rejects the call; or

- he is busy.

The network shall then clear the call in giving the corresponding reason to the calling user C.

Such clearing shall be independent of that of any other call in which the served user participates. If the served user has put on hold more than one call, he shall be able to selectively clear any of them, without the need to retrieve them.

NOTE 1: The call may also be cleared by the served user before he has invoked SS-CW, as part of the basic call operation (e.g. because the served user is busy or simply because he does not want to receive that call).

NOTE 2: If the network cannot accept a clearing request from the served user for a waiting call (e.g. that call has been already cleared), the basic call operation procedure will apply.

4.2.3.2.2.2 Call cleared by the network

The network shall be able to clear any waiting call. It shall then inform the served user using the basic call procedures.

4.2.3.2.2.3 No resources available

The basic call procedure shall apply if the served user has requested the network to connect a waiting call but the network cannot accept that request immediately, i.e. the call will be either queued or cleared.

NOTE: That situation may apply notably if the served user has requested the network to connect a waiting call while being engaged in an individual call without having freed air interface resources (by either clearing his ongoing individual call or putting it on hold - see subclause 4.2.2.3).

4.2.3.2.2.4 Waiting call ignored by the served user

If timer T2 expires with the waiting call neither accepted nor rejected by the served user, the network shall then clear the call in informing the calling user C about the situation.

4.2.3.2.2.5 Waiting call clearing by user C

The calling user C shall be able to clear his call as part of the basic call operation, even when it is a waiting call, i.e. after SS-CW has been invoked (by the served user) for it but before it has been accepted, rejected or ignored by the served user. The network shall then inform the served user about the situation.

NOTE: If the calling user C goes out of reach after SS-CW has been invoked (by the served user) for his (individual) call, the basic call operation procedure will apply.

4.2.3.2.2.6 Location change

If the network cannot support the SS-CW location procedure, it shall indicate it to the MS of the served user when that user changes location with one or more (individual) calls still waiting. The served user MS shall then send the call control primitive TNCC-RELEASE indication (see clause 11 of ETS 300 392-2 [3]) to the served user application in giving the corresponding cause: restoration of (waiting) call not supported. The network should then clear the waiting call in giving the same cause to the calling user C.

4.3 Interactions with other supplementary services

4.3.1 Calling Line Identification Presentation

SS-CW shall not have any interaction with the calling line identification presentation supplementary service.

4.3.2 Calling/Connected Line Identification Restriction

SS-CW shall not have any interaction with the calling/connected line identification restriction supplementary service.

4.3.3 Connected Line Identification Presentation

Not applicable.

4.3.4 Call Report

Not applicable.

4.3.5 Talking Party Identification

SS-CW shall not have any interaction with the talking party identification supplementary service.

NOTE: When the talking party identification supplementary service has been invoked for a user, that user will still be able to receive the information that a new call is offered as part of the basic call operation.

4.3.6 Call Forwarding Unconditional (SS-CFU)

SS-CW shall not have any interaction with SS-CFU, i.e.:

- if SS-CFU has been activated for the called user, then SS-CFU shall take precedence over SS-CW, even if the called user is busy;

- SS-CFU may be activated for the SS-CW served user while a call is waiting but the waiting call shall then not be forwarded;

- the diverted-to user may invoke SS-CW for the diverted call if he is busy and SS-CW is available to him.

4.3.7 Call Forwarding On Busy (SS-CFB)

SS-CW shall not have any interaction with SS-CFB, i.e.:

- if an individual new call is addressed to the served user while SS-CFB has been activated for that user and that call can be supported by his terminal equipment:

  - if the network knows that that user is busy and cannot offer that new call to him because of some limit in the number of additional calls offered or of calls waiting (see e.g. subclause 4.2.3.2.1.1), the network will invoke SS-CFB for that new call (and not offer it to the served user);

  - if the network can offer that call to that user, such user will then be able to invoke SS-CW or e.g. to clear the call in indicating that he is busy (see note 1 in subclause 4.2.3.2.2.1). The network will then invoke SS-CFB for that call;

  - the network will also invoke SS-CFB for that call after the served user has invoked SS-CW for it when that user clears it later in indicating that he is busy (see subclause 4.2.3.2.2.1).

- SS-CFB may be activated for the SS-CW served user while a call is waiting but the waiting call shall then not be forwarded unless the served user clears that waiting call in indicating that he is busy (see subclause 4.2.3.2.2.1);

- the diverted-to user may invoke SS-CW for the diverted call if he is busy and SS-CW is available to him.

4.3.8 Call Forwarding on No Reply (SS-CFNRy)

SS-CW shall interact with SS-CFNRy as follows:

- if SS-CFNRy has been activated for the SS-CW served user and that user has invoked SS-CW for an individual call, SS-CFNRy shall be invoked when the first of the following timers expires while the call is still waiting (e.g. before the SS-CW served user has accepted or cleared the waiting call):
  - call forwarding no reply;
  - timer T2; or
  - (basic call) timer T304.

NOTE: Whichever timer among the three mentioned above expires while the call is still waiting, the call to the SS-CW served user will then be cleared, therefore SS-CW operation will stop.

- the diverted-to user may invoke SS-CW for the diverted call if he is busy and SS-CW is available to him.

4.3.9 Call Forwarding on Not Reachable (SS-CFNRc)

SS-CW shall not have any interaction with SS-CFNRc, i.e.:

- when the SS-CW served user is not reachable, SS-CW shall not be invoked because the called user is not busy, therefore, SS-CFNRc will be invoked if activated for that user;

- the diverted-to user may invoke SS-CW for the diverted call if he is busy and SS-CW is available to him.

4.3.10 List Search Call (LSC)

SS-CW shall not have any interaction with SS-LSC.

4.3.11 Call Authorized by Dispatcher (CAD)

SS-CW shall not have any interaction with SS-CAD.

- if the SS-CW served user is the dispatcher, he shall be able to invoke SS-CW for the call diverted to him when he is already busy. He shall also be able to invoke SS-CW for a new call whilst engaged in a SS-CAD call. The dispatcher shall then be able to release the SS-CAD call and subsequently accept the waiting call;

- if the SS-CW served user is the called user of an individual call previously diverted to the dispatcher (and authorized to continue), he shall be able to invoke SS-CW for that individual call when he is already busy. The calling user C shall be informed that his call is waiting.

4.3.12 Short Number Addressing (SNA)

Not applicable.

4.3.13 Area Selection (AS)

SS-CW shall not have any interaction with the area selection supplementary service.

NOTE: The way the operation of the area selection supplementary service has been standardized for an individual call, that operation stops when the called user (i.e. the SS-CW served user) has been offered the call. If that user has invoked SS-CW, he may thus change location in moving outside the invoked restricted area without having his call cleared by the operation of the area selection supplementary service.

4.3.14 Access Priority (AP)

Not applicable.

4.3.15 Priority Call (PC)

SS-CW shall not have any interaction with the priority call supplementary service. Notably if the served user is already engaged in a priority call, he shall be able to invoke SS-CW for a new incoming call, even if the priority level of that new incoming call is lower than that of the ongoing call.

NOTE: As part of operation of the priority call supplementary service, when a user already engaged in a call is offered a new call, he will be informed about its priority level.

4.3.16 Call Hold (HOLD)

If the call hold supplementary service has been subscribed for the SS-CW served user, that user shall be able when participating in an individual call:

- to free resources in putting his ongoing (individual) call on hold to accept call waiting (i.e. for which he has previously invoked SS-CW and for which timer T2 is still running);

- to invoke SS-CW for a new individual call that the network offers to him while his ongoing (individual) call has been put on hold: either

  - by him (as SS-HOLD served user); or
  - by the distant party.

  NOTE: The standard procedure described in subclause 4.2.2.3 for accepting the waiting call will then apply.

4.3.17 Call Completion to Busy Subscriber (CCBS)

If the call completion to busy subscriber supplementary service has been subscribed for user C, that user shall not be able to invoke it for a call for which SS-CW has been invoked (by the SS-CW served user) unless the SS-CW served user clears that waiting call in indicating that he is busy (see subclause 4.2.3.2.2.1), i.e. for user C, the served user not considered as busy while the call is waiting.

NOTE: User C may also be able to invoke the call completion to busy subscriber supplementary service after his call has been cleared because the called party is busy before SS-CW has been invoked (see subclause 4.2.3.2.1.1) or after (see note 1 in subclause 4.2.3.2.2.1).

While the SS-CW served user is busy and there is still at least one uncompleted call with a given priority level towards the SS-CW served user for which SS-CCBS operation is in the process of monitoring when the served user stops being busy, the network should avoid offering to that user new incoming calls with a priority level equal to or lower than that of the uncompleted call.

The same recommendation holds while the SS-CCBS idle guard timer is running.

4.3.18 Late Entry (LE)

Not applicable.

NOTE: There cannot be any interaction between SS-CW and the late entry supplementary service because the late entry supplementary service applies only to a group call, while SS-CW applies to an individual call.

4.3.19 Transfer of Control (TC)

Not applicable.

4.3.20 Pre-emptive Priority Call (PPC)

If the SS-CW served user is engaged in a call with another call waiting (i.e. for which he has invoked SS-CW), the network shall offer a pre-emptive priority call to him as still another call but with the indication that it is a pre-emptive priority call. If he wants to delay his acceptance of that SS-PPC call, he shall then be able to invoke SS-CW for it. The network shall accept that invocation even if it results in the maximum number of waiting calls being exceeded. It is an implementation option whether in that situation the network will accept more than a single SS-PPC call into the waiting list.

if the served user is engaged in a pre-emptive priority call, with SS-CW activated, he shall be able to invoke SS-CW for a new incoming call, even if the priority level of that new incoming call is lower than that of the ongoing call.

NOTE: See note in subclause 4.3.15.

4.3.21 Include Call (IC)

SS-CW shall not have any interaction with the include call supplementary service.

4.3.22 Advice of Charge (AC)

SS-CW shall not have any interaction with the advice of charge supplementary services.

4.3.23 Barring of Outgoing Calls (BOC)

Not applicable.

4.3.24 Barring of Incoming Calls (BIC)

Not applicable.

4.3.25 Discreet Listening (DL)

SS-CW shall not have any interaction with the discreet listening supplementary service, i.e.:

- if SS-CW served user, the discreet listening monitoring user shall be able to invoke SS-CW for an incoming individual call whilst he is monitoring a call. He shall then be able to put his listening connection on hold or release it and subsequently accept the waiting call;

- if SS-CW served user, the monitored user shall be able to invoke and operate SS-CW exactly as he is was not monitored. The monitoring user shall be informed about it and about the subsequent operations (e.g. acceptance or clearing of waiting call).

  NOTE: The way the operation of the discreet listening supplementary service has been standardized, the establishment of the connection which allows the discreet listening of a monitored user's call (i.e. so that the monitoring user can monitor that call) cannot be considered as a call to that monitored user. Otherwise, it would have been necessary to recall here that in no event will the monitored user ever be offered such call.

4.3.26 Ambience Listening (AL)

SS-CW shall not have any interaction with the ambience listening supplementary service, i.e.:

- if the SS-CW served user is the ambience listening monitoring user, he shall be able to invoke SS-CW for an incoming individual call whilst he is monitoring a call;

- in the event of a new individual incoming call to the ambience listened-to user, the ambience listening call will be cleared according to the specification of the ambience listening supplementary service), therefore SS-CW is no more applicable.

4.3.27 Dynamic Group Number Assignment (DGNA)

Not applicable.

4.3.28 Call Completion on No Reply (CCNR)

If the call completion on no reply supplementary service has been subscribed for user C, that user shall be able to invoke it for a call for which SS-CW has been invoked (by the SS-CW served user) either while timer T2 is running or when it expires.

Once the call completion on no reply supplementary service has been invoked for an uncompleted call to the SS-CW served user, the call completion on no reply recall operation shall not take place as long as there are calls waiting (i.e. call for which SS-CW has been invoked by the SS-CW served user and for which timer T2 is still running).

4.3.29 Call Retention (CRT)

SS-CW shall not have any interaction with the call retention supplementary service.

4.4 Inter-working considerations

4.4.1 Inter-working between different TETRA networks

When user C is located in another network than the served user, that other network shall pass to user C:

- the notification that SS-CW has been invoked for the call (see subclause 4.2.2.3);

- the disconnect causes mentioned in subclause 4.2.3.2 (sent by the network where the served user is registered).

When the served user has invoked SS-CW in a network, called the old network, and migrates in another network and that new network or the old network do not support the optional SS-CW migration procedure, the old network shall:

- clear each (individual) call still waiting;

- inform each corresponding user C about the corresponding disconnect cause: restoration of (waiting) call not supported.

The new network shall apply the (generic) procedure mentioned in subclause 4.2.3.2.2.6 (for the case of failure due to location change in the same network) to inform the served user about the clearing of his waiting calls.

The same shall apply for both the old and the new networks when the served user migrates in another network than that where his subscription is recorded (the called is called his home network) and that other network does not support SS-CW.

NOTE: In addition, obviously, that other network will ignore any new SS-CW invocation.

4.4.2 Inter-working with external networks

SS-CW operation shall be independent of whether the distant party is another TETRA user or an external user. The notification to the distant party in the external network that SS-CW has been invoked shall be sent to the TETRA gateway. Even if the call waiting supplementary service is available in the external network (e.g. public ISDN), the TETRA gateway shall not invoke it when it receives the notification that SS-CW has been invoked for the current call.

If the call waiting supplementary service is available in the external network, the TETRA gateway shall operate as follows when it receives the notification that that supplementary service has been invoked in the external network for a TETRA outgoing call:

- if the call is an individual call, that gateway shall relay that notification to the TETRA user C;

- if the call is a TETRA group call, that gateway shall ignore that notification.

4.5 Overall SDL

Figures 1 and 2 contain the dynamic description of SS-CW using the Specification Description Language (SDL) defined in ITU-T Recommendation Z.100 [2]. The SDL process in figure 1 represents the behaviour of the network in SS-CW invocation and operation procedures; that in figure 2, the behaviour of the network in SS-CW activation procedure.

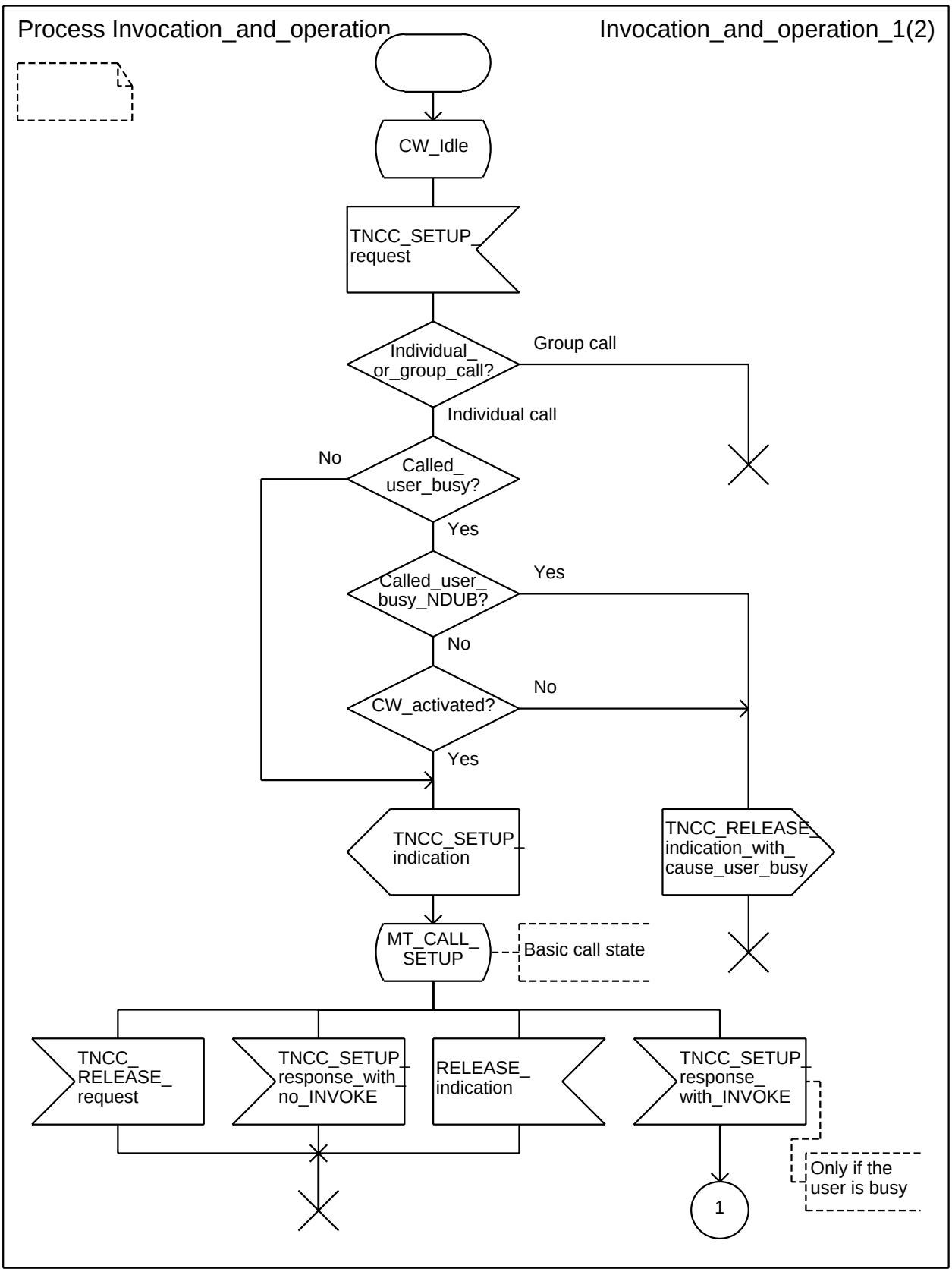

Figure 1 (sheet 1 of 2): SS-CW, overall SDL for invocation and operation

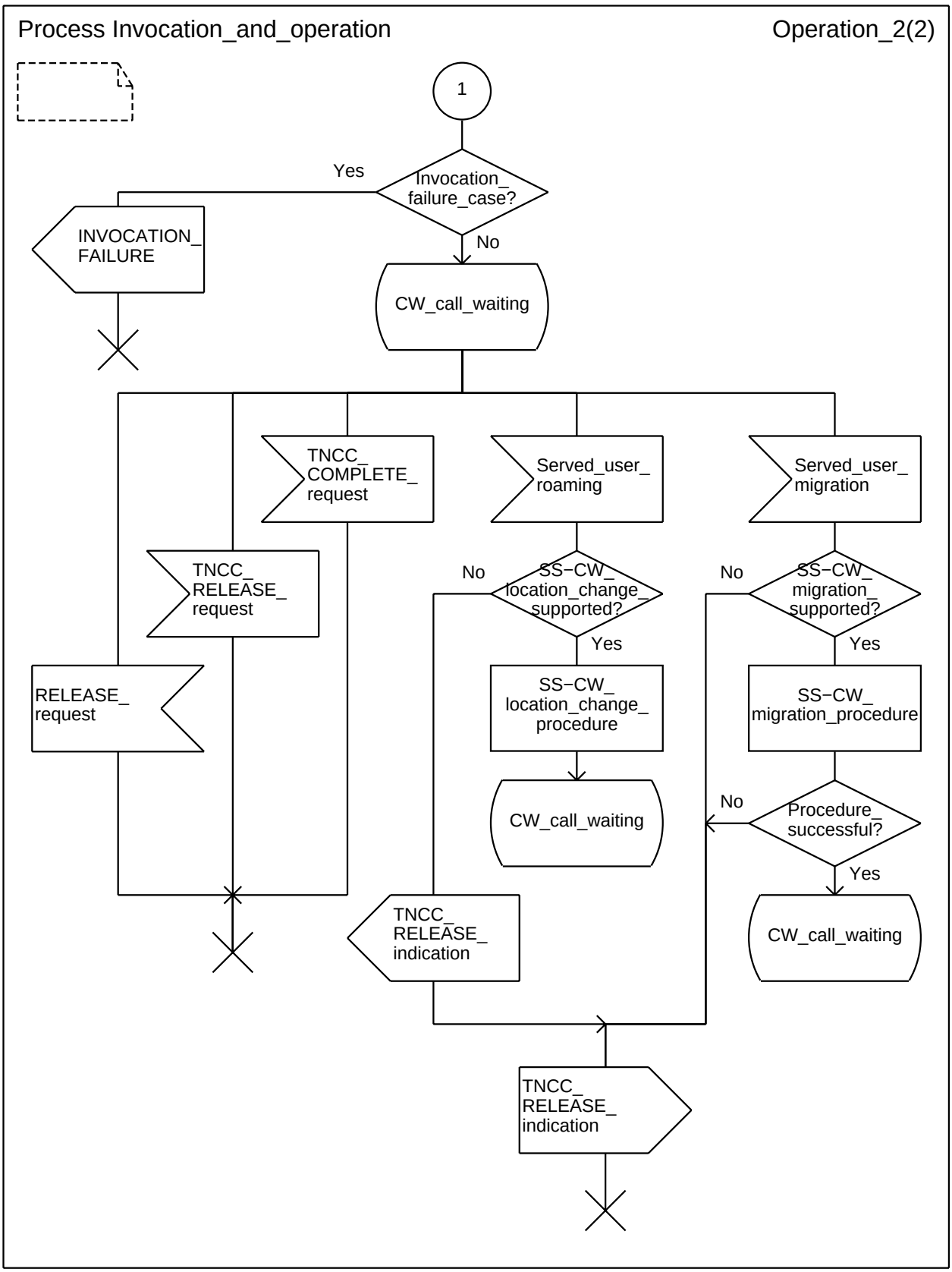

Figure 1 (sheet 2 of 2): SS-CW, overall SDL for invocation and operation

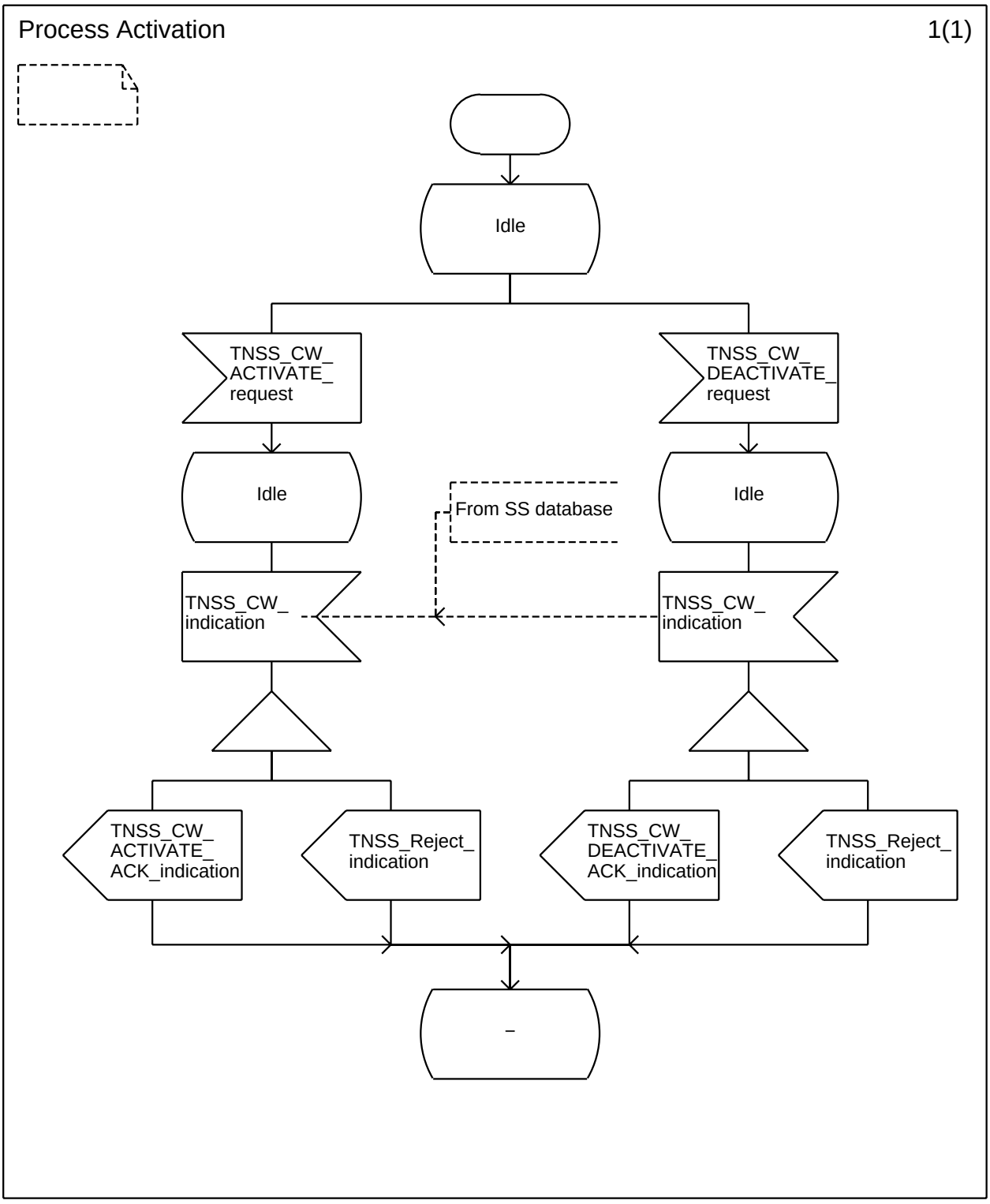

Figure 2: SS-CW, overall SDL for activation

History

Document history		
April 1996	First Edition	
September 1999	One-step Approval Procedure	OAP 9958: 1999-09-08 to 2000-01-07
February 2000	Second Edition	