EUROPEAN TELECOMMUNICATION STANDARD

ETS 300 392-10-10

April 1996

Source: ETSI TC-RES

Reference: DE/RES-06001-10-10

ICS: 33.020, 30.060.50

Key words: TETRA, V+D

Radio Equipment and Systems (RES); Trans-European Trunked Radio (TETRA); Voice plus Data (V+D); Part 10: Supplementary services stage 1; Part 10-10: Priority Call (PC)

ETSI

European Telecommunications Standards Institute

ETSI Secretariat

Postal address: F-06921 Sophia Antipolis CEDEX - FRANCE
Office address: 650 Route des Lucioles - Sophia Antipolis - Valbonne - FRANCE
X.400: c=fr, a=atlas, p=etsi, s=secretariat - **Internet:** secretariat@etsi.fr

Tel.: +33 92 94 42 00 - Fax: +33 93 65 47 16

*

Contents

Foreword

This European Telecommunication Standard (ETS) has been produced by the Radio Equipment and Systems (RES) Technical Committee 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: "Inter-working", (DE/RES-06001-3).

Part 4: "Gateways", (DE/RES-06001-4).

Part 5: "Terminal equipment interface", (DE/RES-06001-5).

Part 6: "Line connected stations", (DE/RES-06001-6).

Part 7: "Security".

Part 8: "Management services", (DE/RES-06001-8).

Part 9: "Performance objectives", (DE/RES-06001-9).

Part 10: "Supplementary services stage 1".

Part 11: "Supplementary services stage 2", (DE/RES-06001-11).

Part 12: "Supplementary services stage 3", (DE/RES-06001-12).

Part 13: "SDL Model of the Air Interface", (DE/RES-06001-13).

Part 14: "PICS Proforma", (DE/RES-06001-14).

Part 15: "Inter-working - Extended Operations", (DE/RES-06001-15).

Part 16: "Gateways for Supplementary Services", (DE/RES-06001-16).

Transposition dates	
Date of adoption of this ETS:	1 March 1996
Date of latest announcement of this ETS (doa):	31 July 1996
Date of latest publication of new National Standard or endorsement of this ETS (dop/e):	31 January 1997
Date of withdrawal of any conflicting National Standard (dow):	31 January 1997

Blank page

1 Scope

This European Telecommunication Standard (ETS) defines the stage 1 specifications of the Supplementary Service Priority Call (SS-PC) for the Trans-European Trunked Radio (TETRA). Stage 1 is an overall service description from the users point of view but does not deal with the details of the human interface itself.

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.

The SS-PC enables a user to have preferential access to the network resources in the TETRA system.

2 Normative references

This ETS incorporates, by dated or 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 (1988): "Method for the characterization of telecommunication services supported by an ISDN and network capabilities of an ISDN".

[2] ITU-T Recommendation Z.100 (1993): "Specification and Description Language (SDL)".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of this ETS, the following definitions apply:

access control: The prevention of unauthorized use of resources, including the use of a resource in an unauthorized manner.

authorised user: A user who is authorized to change the range of priority level of the served users calls.

priority level: A pre-agreed value allocated to each mobile Individual TETRA Subscriber Identity (ITSI) or Group TETRA Subscriber Identity (GTSI) on a per call basis. It is used to determine priority access to network resources in the event of network congestion.

served user: The call originator.

3.2 Abbreviations

3.2.1 General abbreviations

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

GTSI	Group TETRA Subscriber Identity
ISDN	Integrated Services Digital Network
ITSI	Individual TETRA Subscriber Identity
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

3.2.2 Supplementary service abbreviations

For the purposes of this ETS, the following Supplementary Service abbreviations apply:

SS-AL	Ambience Listening
SS-AoC	Advice of Charge
SS-AP	Access Priority
SS-AS	Area Selection
SS-BIC	Barring of Incoming Calls
SS-BOC	Barring of Outgoing Calls
SS-CAD	Call Authorized by Dispatcher
SS-CCBS	Call Completion to Busy Subscriber
SS-CCNR	Call Completion on No Reply
SS-CFB	Call Forwarding on Busy
SS-CFNRy	Call Forwarding on No Reply
SS-CFNRc	Call Forwarding on Not Reachable
SS-CFU	Call Forwarding Unconditional
SS-CLIP	Calling Line Identification Presentation
SS-CLIR	Calling/Connected Line Identification Restriction
SS-COLP	Connected Line Identification Presentation
SS-CR	Call Report
SS-CRT	Call Retention
SS-CW	Call Waiting
SS-DGNA	Dynamic Group Number Assignment
SS-DL	Discreet Listening
SS-HOLD	Call Hold
SS-IC	Include Call
SS-LE	Late Entry
SS-LSC	List Search Call
SS-PC	Priority Call
SS-PPC	Pre-emptive Priority Call
SDS	Short Data Service
SS-SNA	Short Number Addressing
SS-TC	Transfer of Control
SS-TPI	Talking Party Identification

4 Supplementary Service Priority Call (SS-PC) stage 1 specification

4.1 Description

4.1.1 General description

SS-PC allows the infrastructure to give priority access to network resources to calls which have been sent with priority status. The priority level shall not apply to the initial uplink access but shall apply to the resources across the infrastructure and to the radio link at the called user.

The priority level shall be sent with the initial call set-up message, (or the network may select a default level if the user has not chosen a level), and the level may be indicated to the called user as part of normal call control information.

In a typical scenario there may be eight priority levels, each one in turn giving an enhanced performance in times of network congestion. A call attempt that has been assigned a higher priority than another call attempt shall be given resources by the infrastructure in preference to a call attempt with lower priority.

The precise queuing procedure shall be an operator option.

The uses of priority level may be:

- to determine the priority of queuing for resources in the network;

- to indicate the importance of the incoming call to the called user.

4.1.2 Qualifications on applicability to telecommunication services

This supplementary service shall be applicable to all TETRA circuit mode teleservices and to all TETRA circuit mode bearer services except packet data services. It shall be applicable to the TETRA Short Data Service (SDS).

4.2 Procedures

4.2.1 Provision and withdrawal

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

SS-PC shall be provided on a per TETRA number (ITSI/GTSI) basis. For each ITSI/GTSI, the supplementary service may be subscribed to for every basic service subscribed to at that ITSI/GTSI or for only some of the basic services subscribed to at that ITSI/GTSI. A user shall be provided with a range of priority levels within which he may select on a per call basis. In the case of GTSI's, each member of the group shall be downloaded with the associated priority level or priority level range at the same time as being downloaded with the GTSI.

4.2.2 Normal procedures

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

4.2.2.1.1 Activation and deactivation

SS-PC shall be activated by the service provider upon provision and deactivated upon withdrawal.

4.2.2.1.2 Remote activation and deactivation

As an implementation option it may be possible for an authorized/registered user to remotely activate or deactivate SS-PC on behalf of the served user within the range of priority levels that have been provided.

4.2.2.1.3 Definition

As an implementation option, authorized/registered users may dynamically define the priority level or priority level range for each registered ITSI/GTSI. This process supplements the provision process, where the ITSI's shall be allocated a priority level range upon provision, and facilitates the "on line" change of priority level ranges.

4.2.2.1.4 Registration

As an implementation option authorized users, capable of defining and/or remotely activating or deactivating the priority level or priority level range, shall be registered with the applicable ITSI/GTSI range.

4.2.2.1.5 Interrogation

The infrastructure may provide interrogation, which can be local, remote or both.

If interrogation is provided, a Switching and Management Infrastructure (SwMI) shall support interrogation on a per number basis:

- provided or not provided;
- default priority level;
- priority level range;
- registered ITSI range.

4.2.2.1.6 Cancellation

Shall not be applicable.

4.2.2.2 Invocation and operation

The served user shall be able to invoke SS-PC as part of the initial call set up by sending the required priority level. The priority level may be dynamically assigned.

In the instance where there is no congestion across the network resources, the served user's call shall be set up in the normal manner.

When the network resources have become congested, the infrastructure shall compare the priority level of each call attempt and allocate the resources, when they become available, to the call attempt with the highest priority level.

SS-PC may also be provided on a GTSI basis. If the caller is a member of the group and he dials the GTSI then the appropriate priority level associated with the GTSI should be used. If the caller is not a member of the group, one of his own priority levels should be used.

If the served user does not select a priority level to be associated with the call, it shall be a network option as to which priority level shall be selected.

It is an operator option if the priority level can be changed within the network.

4.2.3 Exceptional procedures

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

4.2.3.1.1 Activation and deactivation

Exceptional procedures for activation and deactivation shall not be applicable to SS-PC.

4.2.3.1.2 Remote activation and deactivation

The remote activator may select a priority level which is not within the range of priority levels provided. A notification shall be returned to the remote activator.

4.2.3.1.3 Definition

If the system cannot accept a definition request, the authorised user shall receive a notification that SS PC definition was not successful. Possible causes for rejection can be insufficient information.

4.2.3.1.4 Registration

If the system cannot accept a registration request, the service provider shall receive a notification that SS-PC registration was not successful. Possible causes for rejection can be Registered User Identification (ITSI) is not allowed.

4.2.3.1.5 Interrogation

If the SwMI cannot accept an interrogation request, the interrogating user shall receive a notification that SS-PC interrogation was unsuccessful. Possible causes for rejection can be:

- service or option;
- insufficient information;
- basic service to which relevance is requested is not subscribed to;
- unauthorized user.

4.2.3.1.6 Cancellation

Shall not be applicable.

4.2.3.2 Invocation and operation

If the user attempts to make a call and invoke a priority level which is outside his normal range, the infrastructure shall automatically adjust the priority level to either the maximum or minimum value as appropriate and proceed with the call. A notification may be returned to the served user.

SS-PC shall be rejected by the TETRA if the served user does not have the appropriate profile to use the service.

If the infrastructure cannot invoke the service, the cause shall be returned to the subscriber.

4.3 Interactions with other supplementary services

Interactions with other TETRA supplementary services are specified in subclauses 4.3.1 to 4.3.30.

4.3.1 Calling Line Identification Presentation (SS-CLIP)

SS-PC shall not have any interaction with SS-CLIP.

4.3.2 Connected Line identification Presentation (SS-COLP)

SS-PC shall not have any interaction with SS-COLP.

4.3.3 Calling/Connected Line Identification Restriction (SS-CLIR)

SS-PC shall not have any interaction with SS-CLIR.

4.3.4 Call Report (SS-CR)

SS-PC shall not have any interaction with SS-CR.

4.3.5 Talking Party Identification (SS-TPI)

SS-PC shall not have any interaction with SS-TPI.

4.3.6 Call Forwarding Unconditional (SS-CFU)

SS-PC shall not have any interaction with SS-CFU.

4.3.7 Call Forwarding on Busy (SS-CFB)

SS-PC shall not have any interaction with SS-CFB.

4.3.8 Call Forwarding on No Reply (SS-CFNRy)

SS-PC shall not have any interaction with SS-CFNRy.

4.3.9 Call Forwarding on Not Reachable (SS-CFNRc)

SS-PC shall not have any interaction with SS-CFNRc.

4.3.10 List Search Call (SS-LSC)

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

It shall be possible to invoke SS-LSC and SS-PC at the same time thereby assigning each call attempt with the invoked priority level.

4.3.11 Call Authorized by Dispatcher (SS-CAD)

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

4.3.12 Short Number Addressing (SS-SNA)

SS-PC shall not have any interaction with SS-SNA.

It shall be possible to invoke SS-SNA and SS-PC at the same time thereby assigning each call attempt a priority level.

4.3.13 Area Selection (SS-AS)

SS-PC shall not have any interaction with SS-AS.

4.3.14 Access Priority (SS-AP)

SS-PC shall not have any interaction with SS-AP.

4.3.15 Priority Call (SS-PC)

Not applicable.

4.3.16 Call Waiting (SS-CW)

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

If the called user is engaged and the calling user has invoked this supplementary service then the priority level may be indicated to the called user in conjunction with the SS-CW indication.

4.3.17 Call Hold (SS-HOLD)

SS-PC shall not have any interaction with SS-HOLD.

4.3.18 Call Completion to Busy Subscriber (SS-CCBS)

SS-PC shall not have any interaction with SS-CCBS.

It shall be possible to invoke SS-CCBS and SS-PC at the same time thereby assigning each call attempt a priority level.

4.3.19 Late Entry (SS-LE)

SS-PC shall not have any interaction with SS-LE.

The SS-LE broadcast shall provide the priority level information of the group call to the terminal equipment and may be indicated to the called user.

4.3.20 Transfer of Control (SS-TC)

SS-PC shall not have any interaction with SS-TC.

The priority level assigned to the original call shall remain with the call, even though the originator may have transferred the control to another user within the existing call, and subsequently left.

4.3.21 Pre-emptive Priority Call (SS-PPC)

A SS-PPC shall always have precedence over a SS-PC and it shall take resources away from the priority call if required.

4.3.22 Include Call (SS-IC)

SS-PC shall not have any interaction with SS-IC.

4.3.23 Advice of Charge (SS-AoC)

SS-PC shall not have any interaction with SS-AoC.

4.3.24 Barring of Outgoing Calls (SS-BOC)

SS-PC shall not have any interaction with SS-BOC.

4.3.25 Barring of Incoming Calls (SS-BIC)

SS-PC shall not have any interaction with SS-BIC.

An incoming SS-PC shall not be offered to the barred user.

4.3.26 Discreet Listening (SS-DL)

SS-PC shall not have any interaction with SS-DL.

4.3.27 Ambience Listening (SS-AL)

SS-PC shall not have any interaction with SS-AL.

4.3.28 Dynamic Group Number Assignment (SS-DGNA)

SS-PC shall not have any interaction with SS-DGNA.

In accordance with SS-DGNA, the priority level assigned to the new group shall be downloaded to each concerned ITSI.

4.3.29 Call Completion on No Reply (SS-CCNR)

SS-PC shall not have any interaction with SS-CCNR.

It shall be possible to invoke this supplementary service and SS-PC at the same time thereby assigning each call attempt a priority level.

4.3.30 Call Retention (SS-CRT)

SS-PC shall not have any interaction with SS-CRT.

4.4 Inter-working considerations

When the served user moves to another SwMI, he shall be informed of the existence of or change to his priority level.

4.5 Overall SDL

Figure 1 contains the dynamic description of SS-PC using the Specification Description Language (SDL) defined in ITU-T Recommendation Z.100 [2]. The SDL process represents the behaviour of the network in providing SS-PC.

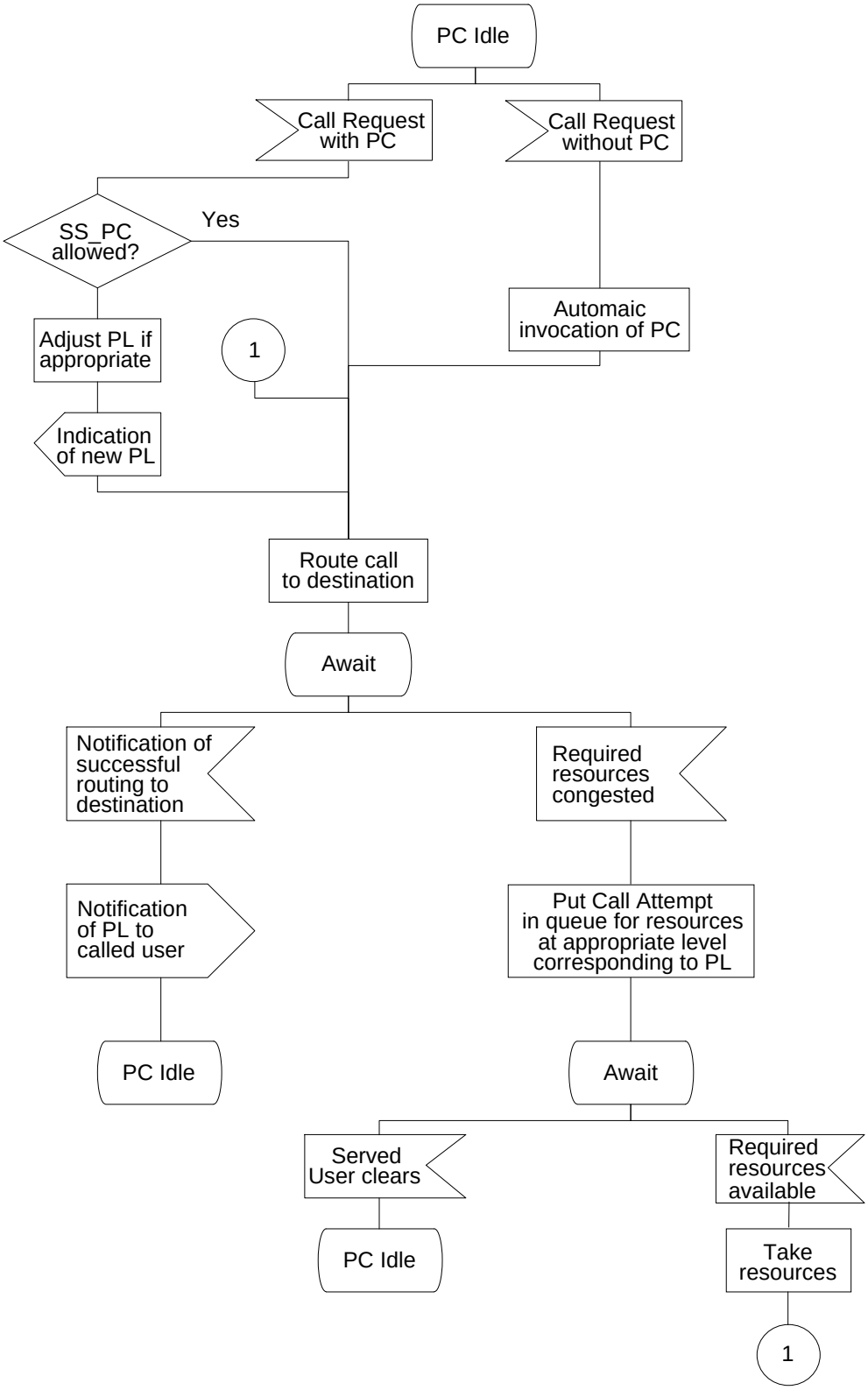

Figure 1: SS-PC supplementary service, overall SDL

History

Document history			
November 1994	Public Enquiry	PE 73:	1994-11-07 to 1995-03-03
December 1995	Vote	V 94:	1995-12-27 to 1996-02-16
April 1996	First Edition		

ISBN 2-7437-0634-1 - Edition complète
ISBN 2-7437-0591-4 - Partie 10
ISBN 2-7437-0602-3 - Sous-partie 10
Dépôt légal : Avril 1996