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Prizemni snopovni radio (TETRA) ï Govor in podatki (V+D) ï 11. del: Dopolnilne storitve stopnje 2 ï 11. poglavje: Ļakajoļi klic (CW)

Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 11: Supplementary services stage 2; Sub-part 11: Call Waiting (CW)

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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:	7 July 2000
Date of latest announcement of this ETS (doa):	31 October 2000
Date of latest publication of new National Standard or endorsement of this ETS (dop/e):	30 April 2001
Date of withdrawal of any conflicting National Standard (dow):	30 April 2001

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1 Scope

The present ETS specifies the stage 2 description of the Supplementary Service Call Waiting (SS-CW) for the Terrestrial Trunked Radio (TETRA).

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.

Man-Machine Interface (MMI) and charging principles are outside of the scope of this ETS.

Supplementary service specifications are produced in three stages according to the method defined in CCITT Recommendation I.130 [1]. The stage 2 description identifies the functional capabilities and the information flows needed to support the supplementary service as specified in its stage 1 description (see ETS 300 392-10-11 [6]). The stage 2 description is followed by the stage 3 description, which specifies the protocols at the air interface and at the various Inter-System Interfaces (ISI) to support the service.

This document is applicable to TETRA Voice plus Data terminal equipment and networks.

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 (1988): "Method for the characterization of telecommunication services supported by an ISDN and network capabilities of an ISDN".

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

[3] ETSI ETS 300 392-3-2: "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 3: Interworking at the Inter-System Interface (ISI); Sub-part 2: Additional Network Feature Individual Call (ANF-ISIIC)".

[4] ETSI ETS 300 392-3-5: "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 3: Interworking at the Inter-System Interface (ISI); Sub-part 5: Additional Network Feature for Mobility Management (ANF-ISIMM)".

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

[6] ETSI ETS 300 392-10-11: "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 10: Supplementary services stage 1; Sub-part 11: Call Waiting (CW)".

[7] ETSI ETS 300 392-12-11: "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 12: Supplementary services stage 3; Sub-part 11: Call Waiting (CW)".

[8] ISO/IEC 11574: "Information technology - Telecommunications and information exchange between systems - Private Integrated Services Network - Circuit-mode 64 kbit/s bearer services - Service description, functional capabilities and information flows".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of this ETS, the definitions of ETS 300 392-9 [5] apply with the following modifications:

affected user: calling user in an individual call.

affected user SwMI: SwMI where the affected user is currently registered. The affected user SwMI is the originating SwMI in an individual call.

served user: individual user for whom SS-CW supplementary service has been subscribed. When SS-CW has been activated for him, that user can thus successfully invoke the supplementary service for a new incoming individual call while he is already busy.

served user SwMI: SwMI where the served user is currently registered. In an individual call, the served user SwMI is the terminating SwMI.

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 [2]).

3.2 Abbreviations

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

ANF-ISIIC	Additional Network Feature - Inter-System Interface Individual Call
ANF-ISIMM	Additional Network Feature - Inter-System Interface Mobility Management
CC	Basic Service Call Control functional entity
CCA	Basic Service Call Control functional entity agent

NOTE 1: CC and CCA are applied as defined in ISO/IEC 11574 [8].

CW	Call Waiting
FE	Functional Entity
ISI	Inter-System Interface
LS	Line Station
MS	Mobile Station
SDL	Specification an Description Language
SS	Supplementary Service

NOTE 2: The abbreviation SS is only used when referring to a specific supplementary service (e.g. SS-CW).

SwMI	Switching and Management Infrastructure

4 Functional model

4.1 Functional model description

The functional model shall comprise the following Functional Entities (FEs):

FE1	Served user functional entity
FE21	Served user SwMI FE
FE21'	Served user new SwMI FE
FE25	Affected user SwMI FE
FE20	Served user home SwMI FE
FE5	Affected user FE

The following relationships shall exist:

ra	between FE1 and FE21
rb	between FE21 and FE5
rc	between FE21 and FE25
rd	between FE1 and FE21'
re	between FE21 and FE21'
rf	between FE1 and FE20

Figure 1 shows these FEs and relationships for the basic operational part of SS-CW, when the served user does not change location after he has invoked SS-CW for a (individual) call.

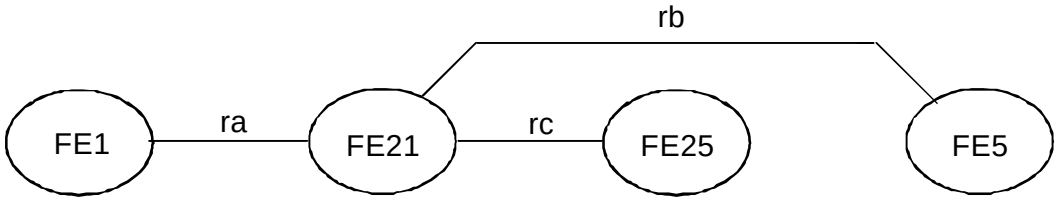

Figure 1: Functional model for the basic operational part of SS-CW

Figure 2 shows these FEs and relationships for the operational part of SS-CW when the served user changes location after he has invoked SS-CW for a (individual) call.

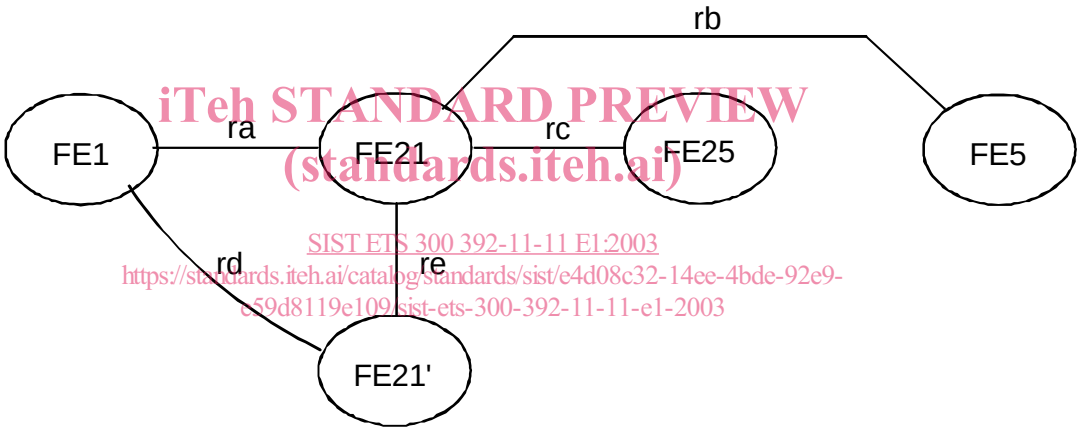

Figure 2: Functional model for the operational part of SS-CW with location change of the served user

NOTE: Both figures 1 and 2 apply only in the case of individual call since SS-CW does not apply to group call.